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INFORMATION FOR CONTRIBUTORS

The Journal of Medical Education serves as an international medium for the exchange of ideas in medical education, as well as a means of communicating the policies, programs, and problems of the Association. The Editorial Board welcomes the submission of manuscripts concerned with the broad field of medical education; this includes preparation for medical education; the medical school experience; intern and resident education; graduate and postgraduate medical education. The Editorial Board recognizes that medical education includes the activities of faculty, students, administrators, and those of the practicing profession who also teach and learn. Thus, it invites communications from any of these sources.

Manuscripts should be submitted in duplicate. All manuscripts are reviewed by the Editorial Board before acceptance for publication. All copy, including footnotes, tables, and legends, should be typed double-spaced. Each diagram or graph or photograph should have a brief legend. Each table should be typed on a separate sheet of paper. References should refer to published material only, must be submitted in alphabetical order, and should include, in order: author, title, journal abbreviation (*Quarterly Cumulative Index Medicus* form), volume number, page, and year; book references should also include editors, edition, publisher, and place of publication.

Galley proofs will be mailed to authors for correction before publication and should be returned within 48 hours after receipt.

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Medical Education Forum includes editorials, letters, comments, criticisms, and excerpts from important addresses.

News from the Medical Schools: Material for this section should be transmitted to the News Editor, Mr. Tom Coleman, 2530 Ridge Avenue, Evanston, Illinois. Announcements of major faculty and administrative appointments, news of distinguished visitors and significant educational developments will be included. It is not possible to publish notices on grants-in-aid for scientific research.

Items of Current Interest: Audio-visual news and notices from national and federal agencies appear in this section.

CORRESPONDENCE

Address all correspondence regarding manuscripts, editorials, and letters to the Editor to the Editorial Office, University Hospitals, University of Wisconsin, Madison 6, Wisconsin.

Address all correspondence concerning subscriptions, reprints, changes of address, and back numbers to the University of Chicago Press, 5750 Ellis Avenue, Chicago 37, Illinois. All changes of address should provide both the old and the new address.

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Calendar of Meetings

ASSOCIATION OF AMERICAN MEDICAL COLLEGES

70th Annual Meeting, November 2–4

Edgewater Beach Hotel, Chicago, Ill.

MARCH

AMERICAN COLLEGE OF ALLERGISTS, Fairmont Hotel, San Francisco, Mar. 15–20. Dr. M. Coleman Harris, 450 Sutter St., San Francisco, Secretary.

AMERICAN ORTHOPSYCHIATRIC ASSOCIATION, Sheraton-Palace Hotel, San Francisco, Mar. 30–Apr. 1. Dr. Marion F. Langer, 1790 Broadway, New York 19, Executive Secretary.

NATIONAL CONFERENCE ON RURAL HEALTH, Broadview Hotel, Wichita, Kan., March 5–7. For information write the American Medical Association Council on Rural Health, 535 N. Dearborn, Chicago 10.

NATIONAL HEALTH COUNCIL, Palmer House, Chicago, Mar. 17–19. Mr. Philip E. Ryan, 1790 Broadway, New York 19, Executive Director.

SOUTHWESTERN SURGICAL CONGRESS, New Brown Palace Hotel, Denver, Mar. 30–Apr. 1. Dr. C. M. O'Leary, 1213 Medical Arts Bldg., Oklahoma City, Okla., Secretary.

APRIL

AERO MEDICAL ASSOCIATION, Hotel Statler, Los Angeles, Apr. 27–29. Dr. Thomas H. Sutherland, P.O. Box 26, Marion, Ohio, Secretary.

AMERICAN ACADEMY OF GENERAL PRACTICE, San Francisco, Apr. 6–9. Mr. Mac F. Cahal, Wolker Blvd., at Brookside, Kansas City 12, Mo., Executive Secretary.

AMERICAN ACADEMY OF NEUROLOGY, Statler Hotel, Los Angeles, Apr. 13–18. Dr. Joseph M. Foley, Boston City Hosp., Boston, Secretary.

AMERICAN ACADEMY OF PEDIATRICS (SPRING SESSION), Sheraton-Palace Hotel, San Francisco, Apr. 13–15. Dr. E. H. Christopherson, P.O. Box 1116, Evanston, Ill., Executive Secretary.

AMERICAN ASSOCIATION OF ANATOMISTS, Seattle, Apr. 1–3. Dr. B. Flexner, Univ. of Pa., Med. School, Philadelphia 4, Secretary.

AMERICAN ASSOCIATION OF GENITO-URINARY SURGEONS, Seaview Country Club, Absecon, N.J., Apr. 15–17. Dr. William J. Engel, 2020 E. 93d St., Cleveland 6, Secretary.

AMERICAN ASSOCIATION OF IMMUNOLOGISTS, Atlantic City, N.J., Apr. 13–17. Dr. Calderon Howe, 630 W. 168th St., New York 32, Secretary.

AMERICAN ASSOCIATION OF PATHOLOGISTS AND BACTERIOLOGISTS, Somerset Hotel, Boston, Apr. 23–25. Dr. Russell L. Holman, 1542 Tulane Ave., New Orleans 12, Secretary.

AMERICAN ASSOCIATION FOR THE STUDY OF NEOPLASTIC DISEASES, Hotel Greystone, Gatlinburg, Tenn., Apr. 30–May 4. Dr. Bruce H. Sisler, Box 268, Gatlinburg, Tenn., Secretary.

AMERICAN ASSOCIATION FOR THORACIC SURGERY, Statler Hotel, Los Angeles, Apr. 21–23. Dr. Hiram T. Langston, 7730 Carondelet Ave., St. Louis 5, Secretary.

AMERICAN COLLEGE OF OBSTETRICIANS & GYNECOLOGISTS, Traymore Hotel, Atlantic City, N.J., Apr. 5–9. Dr. John C. Ullery, 15 S. Clark St., Chicago 3, Secretary.

AMERICAN COLLEGE OF PHYSICIANS, Conrad Hilton Hotel, Chicago, Apr. 20–24. Mr. E. R. Loveland, 4200 Pine St., Philadelphia 4, Executive Secretary.

AMERICAN COLLEGE OF SURGEONS, Sectional Meeting for Surgeons and Nurses, The Queen Elizabeth Hotel, Montreal, Quebec, Apr. 6–9. Dr. Michael L. Mason, 40 E. Erie St., Chicago 11, Secretary.

AMERICAN PHYSIOLOGICAL SOCIETY, Atlantic City, N.Y., Apr. 12–16. Dr. Ray G. Daggs, 9650 Wisconsin Ave., Washington, D.C., Executive Secretary.

AMERICAN PSYCHIATRIC ASSOCIATION, Civic Auditorium, Philadelphia, Apr. 27–May 1. Dr. C. H. Hardin Branch, 156 Westminster Ave., Salt Lake City, Secretary.

AMERICAN SOCIETY OF BIOLOGICAL CHEMISTS, Atlantic City, N.J., Apr. 13–18. Dr. F. W. Putnam, Univ. of Fla. Medical School, Gainesville, Fla., Secretary.

AMERICAN SOCIETY FOR EXPERIMENTAL PATHOLOGY, Atlantic City, N.J., Apr. 13–18. Dr. J. F. A. McManus, Univ. of Alabama Medical Center, Birmingham 3, Ala., Secretary.

AMERICAN SOCIETY OF INTERNAL MEDICINE, Conrad Hilton Hotel, Chicago, Apr. 19, Dr. Clyde C. Green, Jr., 350 Post St., San Francisco 8, Assistant Secretary.

AMERICAN SOCIETY FOR PHARMACOLOGY AND EXPERIMENTAL THERAPEUTICS, Atlantic City, N.J., Apr. 13–17. Dr. Harold Hodge, Univ. of Rochester, Rochester 20, N.Y., Secretary.

AMERICAN SURGICAL ASSOCIATION, Fairmont Hotel, San Francisco, Apr. 15–17. Dr. W. A. Altemeier, Cincinnati Gen. Hospital, Cincinnati 29, Secretary.

AMERICAN UROLOGICAL ASSOCIATION, Chalfonte-Haddon Hall, Atlantic City, N.J., Apr. 20–23. Dr. Samuel L. Raines, 188 S. Bellevue Blvd., Memphis, Tenn., Secretary.

INDUSTRIAL MEDICAL ASSOCIATION, Sherman Hotel, Chicago, Apr. 26–29. Dr. Leonard Arling, 3101 University Ave., S.E., Minneapolis 14, Secretary.

NATIONAL COMMITTEE ON THE AGING, National Social Welfare Assembly, Statler Hotel, St. Louis, Apr. 15–17. Mrs. Geneva Mathiasen, 345 E. 46th St., New York 17, Executive Secretary.

NEBRASKA STATE MEDICAL ASSOCIATION, Hotel Paxton, Omaha, Apr. 27–30. Mr. M. C. Smith, 1315 Sharp Bldg., Lincoln 8, Executive Secretary.

NEUROSURGICAL SOCIETY OF AMERICA, The Homestead, Hot Springs, Va., Apr. 1–4. Dr. Dr. Frank P. Smith, 260 Crittenden Blvd., Rochester 20, N.Y., Secretary.

SOCIETY OF NEUROLOGICAL SURGEONS, Waldorf-Astoria Hotel, New York, Apr. 27–28. Dr. Bronson S. Ray, 525 E. 68th St., New York 21, Secretary.

SOUTHWEST ALLERGY FORUM, Shamrock-Hilton Hotel, Houston, Tex., Apr. 26–28. Dr. Richard H. Jackson, Suite 136, Hermann Professional Bldg., Houston 25, Tex., Secretary.

STUDENT AMERICAN MEDICAL ASSOCIATION, Morrison Hotel, Chicago, Apr. 30–May 3. Mr. Russell F. Staudacher, 430 N. Michigan, Chicago 11, Executive Secretary.

MAY

AMERICAN ASSOCIATION FOR THE HISTORY OF MEDICINE, Wade Park Manor, Cleveland, May 21–23. Dr. John B. Blake, Smithsonian Institution, Washington 25, D.C., Secretary.

AMERICAN COLLEGE OF CARDIOLOGY, Benjamin Franklin Hotel, Philadelphia, May 26–29. Dr. Philip Reichert, 480 Park Ave., New York 22, Secretary.

AMERICAN FEDERATION FOR CLINICAL RESEARCH, Chalfonte-Haddon Hall, Atlantic City, N.J., May 3. Dr. George E. Schreiner, Georgetown Univ. Hosp., Washington 7, D.C., Secretary.

AMERICAN GYNECOLOGICAL SOCIETY, The Homestead, Hot Springs, Va., May 21–23. Dr. Andrew A. Marchetti, 3800 Reservoir Rd., N.W., Washington 7, D.C., Secretary.

AMERICAN OPHTHALMOLOGICAL SOCIETY, The Homestead, Hot Springs, Va., May 28–30. Dr. Maynard C. Wheeler, 30 West 59th St., New York 19, Secretary.

AMERICAN PEDIATRIC SOCIETY, The Inn, Buck Hill Falls, Pa., May 6–8. Dr. A. C. McGuinness, 2800 Quebec St., Washington 8, D.C., Secretary.

AMERICAN SOCIETY FOR CLINICAL INVESTIGATION, Haddon Hall, Atlantic City, N.J., May 3–4. Dr. S. J. Farber, 550 1st Ave., New York 16, Secretary.

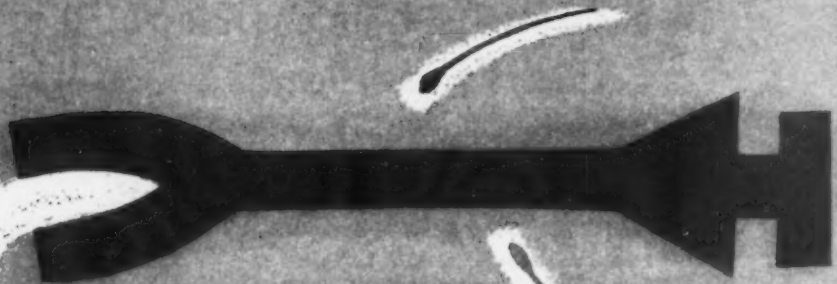
AMERICAN TRUDEAU SOCIETY, Palmer House, Chicago, May 25–27. Dr. E. P. K. Fenger, 1790 Broadway, New York 19, Secretary

ASSOCIATION OF AMERICAN PHYSICIANS, Haddon Hall, Atlantic City, N.J., May 5–6. Dr. Paul B. Beeson, Yale Univ. School of Medicine, New Haven 11, Conn., Secretary.

NATIONAL TUBERCULOSIS ASSOCIATION, Palmer House, Chicago, May 24–29. Mrs. Wallace B. White, 1790 Broadway, New York 19, Secretary.

SOCIETY OF AMERICAN BACTERIOLOGISTS, Sheraton-Jefferson Hotel, St. Louis, May 10–15. Dr. E. M. Foster, University of Wisconsin, Madison 6, Wis., Secretary.

SOCIETY FOR PEDIATRIC RESEARCH, The Inn, Buck Hill Falls, Pa., May 8–9. Dr. Clark D. West, Children's Hosp., Cincinnati 29, Secretary.



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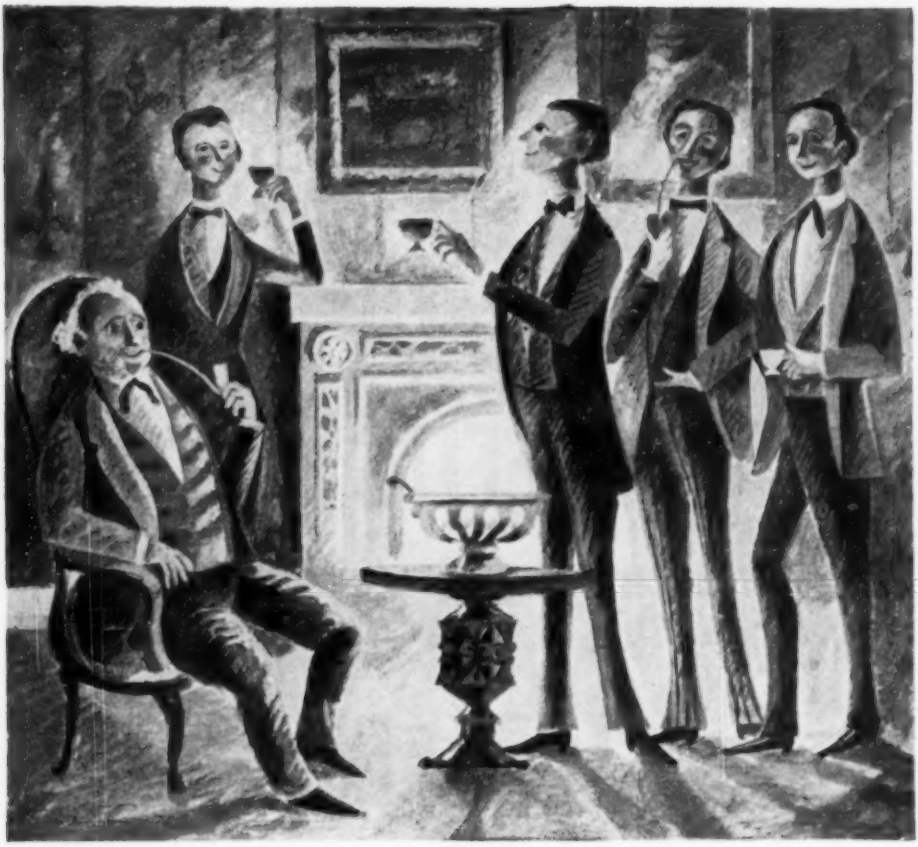

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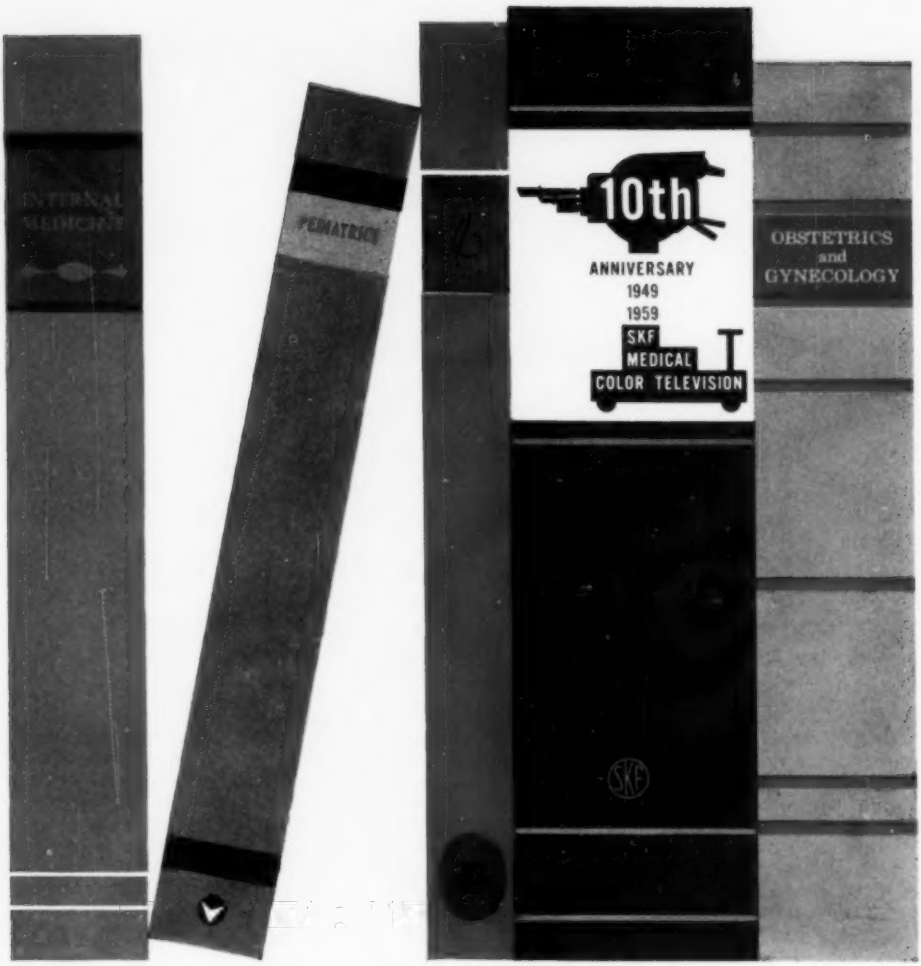

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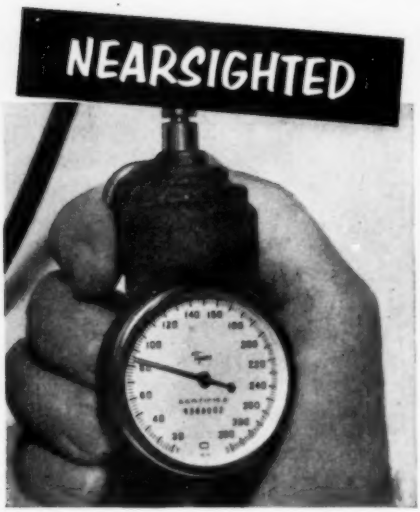

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The Journal of MEDICAL EDUCATION

VOLUME 34 · NUMBER 3 · MARCH, 1959

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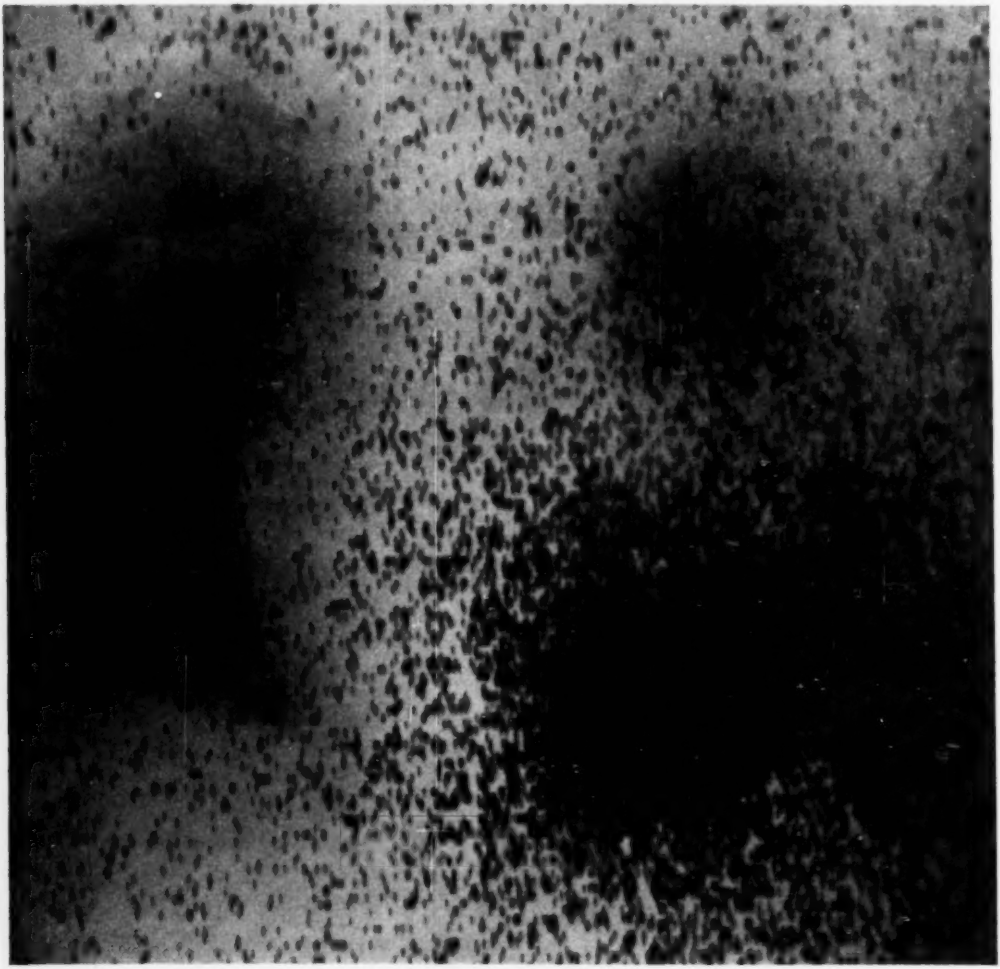
The investigators who have published over 10,000 articles on radioactive isotopes in the past 10 years have enriched biomedical research. Their continuing advances in medical physics and radiobiology promise the contributions to our understanding of physiologic, pathologic and pharmacodynamic processes that lead to new developments in diagnosis and treatment. Lakeside Laboratories, Inc., Milwaukee 1, Wisconsin.



Photoscan courtesy of Vincent P. Collins, M.D., Department of Radiology, Baylor University College of Medicine, Houston, Texas

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CONFERENCE ON MEDICAL EDUCATION FOR FOREIGN SCHOLARS IN THE MEDICAL SCIENCES

ROBERT C. PARKIN, GUEST EDITOR

Preface

JOSEPH C. HINSEY, M.D.*

The Second Conference on Medical Education for Foreign Scholars in the Medical Sciences was held on the campus of the University of Wisconsin in Madison, June 29 to July 2, 1958. Like the first conference, it was co-sponsored by the Conference Board of Associated Research Councils and the Association of American Medical Colleges. For the second year, also, the Conference was supported by a generous donation from the China Medical Board of New York, Inc., Harold Loucks, M.D., Director.

With the experience of the previous year's conference it was possible to make the present one an even fuller experience for all who attended. Again the foreign physicians and educators were selected with the cooperation of the Conference Board of Associated Research Councils, the China Medical Board, the Rockefeller Foundation, the Kellogg Foundation, and the Department of Health, Education and Welfare. This year, also, a small group was selected by the Pan American Sanitary Bureau, a branch of the World Health Organization. The actual number of foreign scholars in attendance was 46, and they represented 27 countries with a worldwide distribution.

The format of the conference somewhat resembled the previous year's meeting. Subject matter discussed in lecture form included the following broad topics: (1) The Philosophy of United States Higher Education; (2) the Objectives of Medical Education; (3) Education after Medical School; (4) The Medical Teacher; (5) The Medical Student.

Each lecture was followed by a discussion session, with the group being broken into sections for these discussions. Each section included a chairman and three or four resource persons who were United States medical educators. There were nine foreign scholars in each section. One foreign scholar in each section volunteered to act as recorder for his section. Discussions following the evening presentations were carried on in plenary sessions.

In order to preserve the atmosphere of the campus, the group was housed and fed in university dormitories. This also permitted the use of free time for undirected intragroup discussion.

A surprising amount of stimulated discussion came forth, both in the group discussion sessions and in the total group discussions. It was helpful in stimulating this discussion to have a discussant following each paper who was, himself, one of the

* Director, New York Hospital, Cornell Medical Center, New York City, New York.

foreign scholars. Of course, not all phases of medical education and medical administration could be covered in this relatively short period. A general over-all view was presented in formal presentations, and comparison of the American system with the various foreign systems of medical education was brought out in the discussion groups. Criticism from the foreign scholars was generally favorable but indicated that they would like still more emphasis on such subjects as the economics of American medical education, the selection of students, and continuation education after medical school.

The substance of the conference is contained in the following papers. Its value can be judged by each reader. In my opinion, the conference equaled or exceeded the previous one and performed a unique service which might well be repeated in successive years.

Front Row: Dr. Lyman Stowe, Dr. Carl Taylor, Dr. Osler Peterson, Dr. Julio Macouzet, Dr. Toshio Torii, Dr. Donald W. Beaven, Dr. Pelayo B. Cabrera, Dr. Donald S. Munro, Dr. Doki Chun, Dr. Fernando Deriu, Dr. Garegin Saroukhanian. *Row 1:* Dr. Robert C. Parkin, Dr. Alex Cobo, Dr. R. Vishwanathan, Dr. Chiung-ming Chen, Dr. Hisakichi Matsubayashi, Dr. Bunji Hagihaya. *Row 2:* Dr. John E. Deitrick, Dr. Hugo Araujo, Dr. Samuel Middleton, Dr. Francisco Quesney, Dr. Robert L. Des Floris, Dr. Yvon Kenis, Dr. Guy Clement, Dr. Wazir Pallie, Mrs. Hawkins. *Row 3:* Dr. Woodrow Morris, Dr. Walter S. Wiggins, Dr. Aura E. Severinghaus, Dr. Fernando Viteri, Dr. Joseph A. Stein, Dr. Soon Yong Kim, Dr. M. C. Mittal, Dr. Jane Theotoki, Dr. B. N. Das Gupta, Dr. Rudolf Deibel, Dr. D. F. Hawkins. *Row 4:* Dr. Augusto Baptista, Dr. Jose Astacio, Mr. Ned Fahs, Dr. Oliver R. McCoy, Dr. Harumi Terada, Dr. Tsuneo Nakamura, Dr. Hiyoshi Miyakawa, Dr. Denis G. Melrose. *Row 5:* Dr. Jairo Bustamante, Dr. John Racy, Dr. Jan Nielubowicz, Dr. Kenan Binak, Dr. Aikoh Kawahata. *Row 6:* Dr. Richard H. Young, Dr. Robert Howard, Dr. Lakshmi Kant, Dr. Lucio Parenzan, Dr. James Troupin. *Row 7:* Dr. Jack Moyers, Dr. Manson Meads, Dr. Jean Curran, Dr. Elizabeth P. Lam, Dr. Jakob Husby, Dr. Hermann Kurz, Mrs. Kurz, Dr. John S. Hirschboeck, Dr. Tan Tjeng Thay, Mrs. Thay, Dr. Howard M. Kline.

Address of Welcome

E. B. FRED, PH.D.*

It is indeed an honor to welcome such a distinguished group of world scientists and educators to the campus of our university.

We hope you take advantage of every opportunity to visit our laboratories and walk through our campus at this beautiful time of year. We sincerely believe you will find this conference a profitable one, and we hope your memories of our campus, our lake, and your associations here will be as valuable to you personally as this conference will be to medical progress in your respective countries.

I understand this is the second conference of its kind to be held anywhere in the United States. Its success should initiate a more general effort on the part of American medical educators to assist in the improvement of medicine throughout the world. The University of Wisconsin is indeed fortunate in having been permitted to organize and present this conference for the second time.

World health is unquestionably one of our greatest problems. I believe its influence upon world peace and prosperity is more important than generally realized. Health is at the very base of human physical and intellectual progress. Without it, improvement in living standards is exceedingly difficult.

We at Wisconsin have been grateful for the opportunities extended to us to help train the world's medical scientists. Yet, often, we have felt that these scientists, coming to us to study, remained isolated.

Concentrating on their immediate problems of research and study, they devoted their days to learning of the new advances in physiology and pathology and the many specialties. This work is the basis of medical science, but when we limit education to these subjects alone, we are not realizing our full potentialities.

This conference, we hope, will convey to you something of the philosophy of education in the United States, the aims and extent of our medical curricula, the newest trends in medical education. This conference represents an experiment in training medical educators as well as doctors and scientists.

I think we should express our gratitude to the agencies that have made possible this conference. It is being supported primarily through a grant from the China Medical Board of New York. Representatives to the conference have been invited by the China Medical Board, the Conference Board of Associated Research Councils, the Rockefeller Foundation, the Kellogg Foundation, the United States Department of Health, Education, and Welfare, and the Pan American Sanitary Bureau of the World Health Organization. To all of these: our deep gratitude.

Let me welcome you again to our campus. May your visit be a most enjoyable and profitable one.

* President, University of Wisconsin.

Higher Education in the United States

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There is no system of education in the United States. The Constitution of the United States makes no mention of education. This is an elementary and first fact in understanding the operation of schools in this country.

Under the provisions of the United States Constitution, powers which are not specified as powers of the federal government are reserved either to the states or to the people. As schools have evolved in the country, therefore, the establishment and support of public education have been the responsibility of the states.

In addition to public schools, however, the states have permitted the establishment and maintenance of private or parochial schools which are supported financially from funds other than public treasuries. Indeed, religious motivations were a pervasive influence in the establishment of most of the early schools in this country, including the colleges. This influence is still present, as shown by the fact that about 12 per cent of all students attending elementary and secondary schools in the United States are enrolled in private or parochial schools.

The point I wish to make here, however, is that the federal government of the United States has no direct responsibility for the establishment, operation, or support of the schools of this nation. There is no department or ministry of education which specifies subjects to be taught or standards to be met. All such controls are exercised by the 48 state governments, through state departments of education or public instruction.

Typically, the states have delegated broad powers to local communities which, within broad state policies and regulations, establish and operate their own schools through school boards elected from and by the citizens of that community or school district. Each school board is an agency of the state in carrying out the state's responsibilities for education, but it is also responsible to the community through the elective process. The controlling boards or officials of the privately operated schools also, typically, have much freedom in managing their schools—always, of course, within the laws of the state and the charters which they have been granted.

The support of public schools is derived primarily from taxes placed upon property within the local school district. In recent years, however, increasing amounts have been granted to local school districts from state tax sources—particularly to schools whose local tax resources are too meager to provide an adequate educational program. This increasing support from state tax sources reflects a governing principle in American education that adequate schooling opportunities should be available to all children. There is considerable discussion in American politics now as to whether the federal government should assist the states in order that children who live in states with less resources may have the educational advantages which children have who live in states with greater resources. It should also be said that the same general principle of making educational opportuni-

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ties available to all children presently motivates much of the discussion and action of the United Nations on the world-wide front.

Typically, American children begin school at 6 years of age, attend elementary school for 8 years, high school for 4 years, and graduate at age 18. Attendance at school is required by state law through most of this period, the leave-taking age varying most frequently between 14 and 18. In fact, however, about 80 per cent of all children of the ages 14, 15, 16, and 17 in the United States are enrolled in school. About one third of the high school graduates continue to degree-granting colleges, and about one third of this number receive degrees.

There is no counterpart of the American high school in other parts of the world. I do not know of another country which attempts to provide the diversified educational program which is needed when such a large part of the total age group attends. This program is an ambitious one and, in terms of its ideal, has many imperfections and needs much improvement. Nevertheless, the history of education in the United States clearly suggests that there will be no turn backward in the desire or movement to bring suitable educational opportunities to ever-widening segments of our people.

The American schools, it seems to me, reflect two fundamental ideas about our way of life. First, our people have believed that education is prerequisite to a self-governing and freedom-loving people and that, in general, well informed people are likely to make better decisions for the common good than ignorant people. Schools, therefore, have been established for the common good. Second, our people have believed in the integrity of the individual, and that each person should have the opportunity to become the finest person which his own talents, abilities, and efforts can make him. This means providing educational chances which are as broad as the talents and abilities of our people. Schools, therefore, should help build better people and thus better citizens of our community, state, nation, and the world.

In experience, we have found that schools are but one instrument, although a very important one, in the achievement of these ideals. Insofar as we have approached these ideals, we have been helped by the abundant natural resources of this area of the world. Experience has also shown that good education is an investment which pays rich social and individual dividends. Do not discount, either, the power of the controlling idea that the individual man is worthy of his most complete and beneficent development.

I have dwelt at some length upon the background of our elementary and secondary schools because it seems to me that colleges and universities in the United States are more completely understood when there is knowledge of the educational program which undergirds them.

Colleges and universities were established in this country almost as soon as colonies were established. The early colleges and universities were church-established and church-controlled. They had a primary purpose of preparing persons for the ministry and professions and had curricula which were patterned after the classical curricula of the universities of England and France. These colonial institutions, such as Harvard, Yale, Princeton, Columbia, Brown, Dartmouth, and others, have undergone great changes and developments throughout the years, but their strength and influence remain dominant among the colleges and universities of their region and are strong throughout the nation. As our nation grew in population, as our society grew more complex, and as commerce, industry, and agriculture expanded, pressures were felt for the expansion of educational programs and the extension of educational opportunities to larger segments of our population. The establishment of state universities in the latter part of the eighteenth century was a reflection of the idea that education should have a practical purpose and that schools should serve people who would be

engaged in many occupations other than the professions, or who could not afford the "luxury" of education for cultural purposes only. As the population spread to the Midwest, the states and territories established state-supported universities which have rapidly become the dominant universities of their region. The University of Chicago, Northwestern University, and the University of Notre Dame, on the other hand, are able representatives of private universities like the colonial institutions of the Eastern and New England states. The state-supported university is typically the strongest institution in all the states west of the Mississippi River. Stanford University and the University of Southern California are the only large privately controlled universities in the western half of the United States. As state-supported schools were established, however, there was a mushroom growth of small private colleges which were established usually by churches of many different denominations. This movement was an attempt to preserve the early idea that education should be blended with religion. Those who support these schools dislike the "secularization" of education in state-supported schools, since the states usually prohibit (by constitution or statute) religious instruction or religious tests in the employment of teachers or admission of students.

Still later, when many large cities began to dot the landscape, colleges and universities which were supported entirely by municipalities began to appear. Some of these institutions were formerly smaller colleges, usually privately supported, which had been absorbed and expanded; others were wholly new institutions.

A more recent development is the junior college, which is sometimes called a "community college." The junior, or community, college is an institution which provides a 2-year educational program beyond the high school. It aims to provide for some students an opportunity to take the first 2 years of a typical 4-year college degree program; for others it offers a 1- or 2-year program of specialized training in preparation for some technical or sub-professional work; for others it has a general cultural education designed to be complete at the end of 2 years without regard to specific occupational preparation. This institution is specifically oriented toward meeting the educational needs of the immediate community, including the adults.

Typically, the junior or community college is an extension of a public high school upward through the 13th and 14th years. It is established and supported under the same patterns of control and support as the public high school. In some states, as in Wisconsin, however, the state university operates extension programs which provide the first 2 years of college degree work in communities of the State.

Colleges and universities in the United States are typically governed by boards of trustees who are responsible for establishing the policies, managing the operations, and directing the course of the institutions. The boards of trustees of the state-supported colleges and universities are citizens of the state who have been appointed by the governor and confirmed by the senate of the state legislature. There is implicit in this arrangement a desire to keep the institutions from becoming the instruments of partisan politics and outside direct governmental control. Some states have moved toward establishing state boards of higher education with professional commissioners of education, but the functions of these boards usually relate to the planning and coordination of all state-supported college and university programs rather than direct management of the individual institutions.

No single person, governmental agency, or voluntary association can speak for all higher education in the United States. A recent directory of the colleges and universities shows that of the close to 1,900 different schools, almost 20 per cent are under state control, 15 per cent under municipal control, about 40 per cent under control of churches, and about 25 per cent under other private control. The enrollments

in these schools show an almost even division between students attending private schools and those attending public schools. With the recent rapid increase in junior colleges, the trend is toward a higher percentage attending the publicly supported colleges.

A natural question is how can there be any assurance that common educational objectives can be achieved in a situation which permits so great a measure of autonomy in the elementary and public schools and particularly in the colleges? This is accomplished, at the college level, at least, in major part through voluntary associations in which universities and colleges, departments, disciplines, and individual faculty members meet and agree upon standards of admission, course and degree requirements, qualifications of staff, and other matters. By and large, the governing boards of colleges and universities ask for and respect the judgment of their faculty and administrative officers upon matters which require professional knowledge and judgment.

Thus, there comes about a unity with diversity in our program of higher education which again reveals a characteristic of the fabric of American society. Just as we are a people of many peoples, as expressed in our motto, "E Pluribus Unum," our colleges and universities have the common objective of serving the educational needs of our society while approaching the needs from differing viewpoints in diverse ways and under a variety of auspices.

I have emphasized that the federal government has no direct responsibility for nor control of schools, colleges, or universities in the United States. This does not mean that the federal government has no influence or that it is powerless to assist schools and colleges when the national interest requires. The federal government has provided many millions of dollars in support of specific educational programs and engages the services of many universities in contracts and grants for research upon problems affecting national security and welfare and for federal programs of education and technical assistance to other lands. The most significant single federal act affecting colleges and universities was the granting to the states of large holdings of federal land almost 100 years ago, the income from which to be used for establishing colleges which emphasize training in the agricultural and mechanical arts. These colleges, now known as land-grant colleges, have for almost 100 years received federal funds for the continuance and development of various programs of this group of colleges.

The educational program of colleges and universities in the United States is almost as broad as the needs of society. The courses range from the classical and esoteric to the highly technical and mundane. As an example, the University of Wisconsin this year in a single term offers over 1500 different courses taught by more than 80 departments. To give you a glimpse of the range of the subjects taught, here are a few: Herodotus; Micropaleontology; Ancient Science; Elementary Sanskrit; Baroque Counterpoint; Chinese, Russian, Hebrew, Greek, French, Italian, German, Arabic, Spanish, Polish, Portuguese, Norwegian, and English languages; Atomic and Nuclear Physics; Radio News-Writing; Government and Policies of the Soviet Union; Criminology; Marketing Fruits and Vegetables; Weed Control; Livestock Feeding; Child Welfare; City Planning; Jet Propulsion; Thermodynamics; Preventive Medicine; Driver Education; Folk and Square Dance; Principles of Insurance; and Income Tax Accounting.

I am sure that this range of subjects suggests to you that a state university in the United States is an institution which is expected to serve the people of its state in all walks and stations of life, and its contributions in these directions are limited only by the resources which are placed at its disposal. In fact, a former distinguished president of this University once wrote, "I shall never be content until the beneficent influence of the University reaches every family of the state. This is my ideal of a state university."

The emphasis upon the practical and

utilitarian motives, upon the education of many instead of few, upon breadth of studies at a possible sacrifice of depth, upon student activities which cultivate other qualities than scholarship is commonly cited as a weakness of the American college. The average undergraduate student in American colleges is less select in scholarly aptitude and interest than the average university student in some other countries. There is evidence, however, that the best of American college graduates compare very favorably with the graduates of any university in the world.

Privately supported colleges in the United States are free to determine the qualifications of students admitted to them and to shape their programs and standards accordingly. A few state colleges and universities are required by law to admit students who have been graduated from high schools in their states. Most state universities, however, depend upon counseling by guidance officials in high school and their own admissions officers to discourage students who have not demonstrated strong scholastic aptitude from attempting college or university studies. In fact, comparatively few American youth who have not enjoyed their high school studies seek to continue this kind of activity. At Wisconsin, for example, 30 per cent of the entering freshmen each year have ranked in the top 10 per cent of their high school graduating classes; almost 50 per cent have been in the top quarter of their classes, and 85 per cent have been in the top half. About one half of the entering class remain until graduation. The other one half either transfer to another college, accept employment, or move to some other form of occupation. Of those who graduate, more than 75 per cent are students who have ranked in the top quarter of their high school classes.

So, despite the large numbers of young people who attend college in the United States, the process of self-selection and self-determination provides a group of college graduates of high average quality, including university quotas of scholars well equipped to enter graduate and professional studies. Last year, for example, more than one out of five men students who graduated from colleges and universities in the State of Wisconsin continued to study either in graduate schools, or in law, medical, or theological schools.

This brings us to the graduate and professional schools in the United States. The "graduate school" in American education is the counterpart of the university in some other countries. It is the unit of the college or university which administers programs of non-professional studies which lead to degrees beyond the baccalaureate level. Its emphasis is upon advancing knowledge through research and independent inquiry, and upon developing scholars, scientists, and educators who are adequate in number and quality to the needs of our evolving society. This program culminates in the earning of the Ph.D. degree, earned after a period of at least 3 years of intensive individualized study and training.

Less than one third of all colleges and universities offer programs which lead to graduate degrees, and fewer than 160 institutions award the Ph.D. degree. Admission to Ph.D. programs is highly restricted, with emphasis upon abilities to carry on creative or independent work. Graduate schools have been growing rapidly in the United States, at the Master's degree level for the preparation of teachers for the elementary and secondary schools, and at the Ph.D. level under the stimulus of the greatly expanded research activity of industry and the federal government as well as the growing need for highly qualified teachers and research workers in colleges and universities.

Each graduate school in the United States sets its own standards and is responsible for its own program. There is no agency which accredits its program or sets standards which it must meet. Each school stands primarily upon the merit of its faculty and the quality of students it produces, although, as in other aspects of education, free exchange of information and experience exists among graduate school administrators, and

certain common standards and practices develop by consensus or agreement.

About 70 per cent of all graduate students are men. Nine out of ten students who earn Ph.D. degrees are men, although the proportion of women earning graduate degrees has been increasing. About one fourth of all graduate students are supported by scholarships, fellowships, teaching or research assistantships which pay a part of their costs of attending college. Some of these students assist with the teaching of beginning courses in the fields of their specialization, and others assist major professors in conducting research. This arrangement stimulates the growth of the graduate school, helps provide the future corps of college and university faculty members, and provides a more economical means of instructing the large number of students now entering the beginning courses of the university.

The faculties of the graduate schools are typically the faculty members in each department who have the responsibility for instruction in graduate level courses and who advise and direct students who are studying for graduate degrees. In most schools, many faculty members have responsibilities for instruction of both undergraduate and graduate students. Many university courses enroll both undergraduate and graduate students.

The professional schools, such as law and medical schools, in American colleges and universities are distinctly separate units. They have their own faculties. Professional associations have established standards of admission, curricular content, degree requirements, and staff qualifications. These schools concentrate upon developing the competencies which, in their judgment, the profession requires and selecting those for admission or graduation who possess the personal qualifications which will bring credit, or not bring discredit, to the profession. There is less emphasis upon development of research skills as such. Typically, the professional schools accept students only after 3 or 4 years of general education in the liberal arts with emphasis upon certain preparatory subjects. Students must study during an extended period of time—seldom less than 3 years in law school and at least 4 years in medical schools—before being eligible for the professional degree.

More recently, schools of business, social work, education, theology, and specialists in some other fields have also organized as professional schools. One of the major problems in American education centers around the question whether or to what extent professional schools should be separate from the liberal arts college. A tendency toward the splintering of the liberal arts college through the formation of separate professional schools is a situation which is viewed with many misgivings among many college faculties and administrators. There is much current discussion about a welding of the programs of professional schools and liberal arts colleges and about the need for greater attention to the preparation of future college faculty members for their teaching responsibilities. It is too early to know whether this discussion will lead to any effective action in these directions.

In summary, the nature of the American public university can perhaps be delineated by a brief description of the University of Wisconsin and its program.

The University of Wisconsin is 110 years old, its establishment being directed by the State Constitution. It is also Wisconsin's land-grant college and receives continuing assistance from the federal government for the development of programs of research, teaching, and service in the fields of agriculture, home economics, and engineering. It is one of few institutions in the United States which has all general and specialized courses on a single campus. On this campus are found the Colleges of Letters and Science, Agriculture, and Engineering; Professional schools in Law, Medicine, Commerce, Education, Pharmacy, Music, Journalism, Social Work, Nursing, and Home Economics. It has one of the largest graduate schools in the nation, ranking first in the total number of Ph.D. degrees awarded in a recent year. Each of these schools carries on com-

prehensive programs of teaching and research in its fields. In addition, the University carries its teaching, its research findings, and specialized counsel to citizens and groups through a variety of public service activities: such as its radio and television station, its general extension division which conducts classes and correspondence study courses for individuals in many parts of the state, its new Wisconsin Center which houses many conferences and institutes which adult groups in many areas of our economic life attend, the agricultural and home economics extension service which stations university experts in every county of the state, engineering experiment stations which do research upon technical problems of industry, and numerous other agencies which render important direct services to the state, its citizens and economic groups. University staff members are frequently loaned to the state or federal government for special assignments either in this country or abroad.

The University of Wisconsin attracts students from every county in the state, every state in the United States, and, this year, from 70 other countries. More than 16,000 students are enrolled in its courses. The teaching staff numbers more than 1,500. The annual budget for all operations of the University now approximates $50,000,000.

Students who are residents of Wisconsin pay $200 per year toward the costs of their education. This amount is less than one fourth of the cost of their instruction. Students who are not residents of Wisconsin pay $550 per year, about 60 per cent of the cost of instruction. Government appropriations, gifts and grants, and income from the auxiliary enterprises make up the difference.

This is typical of the practice in publicly supported colleges and universities. Up to the age through which all children are required to attend school, or until high school graduation, public education is without tuition charge to the students. Beyond this level, when attendance is optional, the students are usually expected to pay a tuition fee. In some junior colleges, however, which are extensions of the public school system through the thirteenth and fourteenth years, no tuition fee is charged.

Privately supported colleges usually charge much higher student fees. Many of them rely heavily upon this income for their operations, particularly since in recent years government tax policies and inflationary trends have reduced the income which may be expected from endowment funds. Some of the distinguished private colleges now have fees which approach or exceed $2,000 per year. The average tuition of all private colleges approximates $700 per year. These figures of course do not include cost of room and board if the student must live away from home.

This summary seems to emphasize bigness as a characteristic of the University of which we are proud. The animating purpose and effort of the University, however, has not been to become big but to perform its mission with a stamp of excellence. The University does not apologize for being big unless bigness interferes with the quality of education it can provide.

A few years ago, when the University was observing its 100th birthday, it unveiled a befitting motto which read—"Rooted in the past, serving the present, forming the future."

I can think of no better brief description of the abiding purpose of all higher education in America.

The Objectives of Medical Education

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The objectives of the educational program of any medical college are determined by the faculty and by the trustees or other representatives of the public who own or support the institution. The stated objectives of the college may differ sharply from its practical educational achievements. Whether or not it attains its stated objectives depends upon the caliber of its students, its faculty, facilities, financial support, and other educational training and service responsibilities it has assumed.

A set of objectives for undergraduate medical education was published in *The Journal of Medical Education* in March, 1953. Before discussing these objectives and how they may be modified by circumstances in individual medical colleges I would like you to consider the term "medical education." In the past it has usually been limited to mean the education of individuals for the profession of medicine. Today, health care and service are provided by a large group of individuals, and much of their education and training is considered, by segments of the public and by some educators, to be a part of medical education. This group of health personnel may include dentists, pharmacists, nurses, technicians, social workers, as well as many others. Educationally, most medical colleges have the power to grant the degrees of Master of Science and Doctor of Philosophy as well as Doctor of Medicine. They also generally give certificates to individuals who complete courses of technical training. The medical college with the objectives of and responsibility for educating and training many categories of health personnel is quite different from one limiting its major efforts to the education of physicians and doctors of philosophy. The college with the broad responsibilities must provide courses at several educational levels. Students may come to it with educational backgrounds ranging from a high school diploma to a Bachelor's degree. It must maintain a faculty capable of providing courses for graduate students as well as training programs for developing individuals with technical competence. Training and education are obviously not synonymous and not to be confused. Education is study for the purpose of understanding. The aim of training is to develop technical proficiency. The medical technician need not understand the significance of an abnormal blood count, but the young physician should. As medical centers develop around medical schools it seems inevitable that the educational objectives and responsibilities of the schools will expand. The objectives of undergraduate medical education may be difficult to maintain in such a milieu. The courses offered to health personnel by medical school faculties today are inferior and are taking away from the medical student the time and energy of the faculty. A new organization of a medical college faculty into divisions with specific responsibilities for various categories of students is advisable. One division should have the medical student as its major, if not only, responsibility. I believe that the objectives of undergraduate medical education could be better served by such organization.

The objectives of undergraduate medical education as published by the Association of American Medical Colleges included the

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acquisition of knowledge, habits, skills, attitudes, and professional and ethical principles. I would be critical of these objectives in only two respects. The first criticism is that the selection of individuals for admission to medical school is not mentioned. The committee writing out these objectives obviously felt that its responsibility was to delineate only the objectives of the undergraduate medical program. However, the finest program will fail if the students are not capable of taking advantage of it, and the objectives will not be attained. The first objective of a medical college should be to admit students who have demonstrated a high level of intellectual ability, integrity, perseverance, responsibility, and intellectual curiosity. Race, religion, color, sex, and geographical location of their homes are of minor significance. I will return to this subject again at the end of this talk.

My second criticism of the objectives is the lack of emphasis on experimentation and the search for new knowledge. The only statement dealing with this area reads as follows: "To help the student establish essential habits of continuing self education through critical reading and evaluation of information and through the use of the scientific method in approaching problems." Research should be a major objective of every medical school, and I believe every student should be encouraged and have the opportunity to participate in the search for new knowledge in some field of his choice. Such an experience will give him a greater appreciation of the work of those who do contribute to the field of science, will sharpen his ability to judge the validity of new claims in therapy and diagnosis, and, above all, may draw him into the field of research where he can make his own contributions.

Perhaps I will offer a third criticism: It is that nowhere in the objectives is any mention made of the responsibility of the medical college to try to educate and develop some of its students for the field of medical education. In the course of the survey of medical schools which we carried out some years ago, we were impressed with the almost complete lack of information the students had about the requirements for and the rewards of a faculty member in a medical college. They had great interest in the subject when it was discussed with them. In fact, I recall two occasions when groups of students at two of the medical colleges we visited followed us to our hotel in order to continue the conversation in the evening. We need good teachers, and the faculties of medical schools might have as one of their major objectives better informing medical students about academic careers in medicine.

Next I would like to discuss some of the factors which make it difficult for medical schools in this country to achieve their objectives. You will recall that one of the objectives was to develop attitudes and professional and ethical principles. These objectives are best taught by precept, and their accomplishment depends upon the faculty members, primarily upon the clinical faculty. If a medical school is to be held responsible for developing proper attitudes and ethical principles in its students, it must control the selection and appointment of its clinical faculty members. Flexner, in 1910, in describing the relations of the medical schools in New York to their teaching hospitals and clinical faculties, wrote, "in the great private hospitals personal considerations nominate the staff, and the school subsequently negotiates with the appointees. Competition, professional and institutional, has molded the hospital situation, and in consequence clinical faculties are organized on a personal rather than a scientific or educational basis . . . it just happens that some competent teachers find themselves in prominent hospital positions, but the system is not designed to pick them out. . . . Under these conditions, the schools can hardly be said to have ideals, policy, or genuinely organized departments, except by fortunate accident."

This situation in New York was corrected shortly after Mr. Flexner's report was made. However, in 1950, of a total of 149 teaching hospitals utilized by 37 medical schools, the

schools had complete control of staff appointments in only 60, partial control in 41, and no control in 48. Thus, in one third of the hospitals in which students received a significant portion of their clinical teaching, the school exerted no definite control of the staff appointments. In 61 of the hospitals they had no control over the appointments of the house staff. Under such circumstances, these schools find it most difficult to attain their ideals. The quality of medical practice and the ethics of the staff members of these hospitals may be questionable, but under such an influence the students' ideals and accepted standards of practice are established. There has been no progress beyond the situation described by Mr. Flexner in 1910.

As is to be expected, there is variation from school to school in their objectives. Some schools continue to feel it their duty to prepare students for general practice. They assume the responsibility of giving the students practical experience and technical proficiency in medical practice and see to it that they have the opportunity to work in many hospital departments. Upon graduation, rotating internships are advised, and the graduate again rotates through a series of hospital services, being given greater responsibility than he had as a medical student. A large majority of schools give their out-patient teaching in the fourth year because it is said to be a close approximation to the office practice of medicine which the physician will face upon entering practice. This is a continuation of an old tradition which does not recognize the changes that have taken place in the education and training of a doctor. The medical student no longer enters practice upon graduation. Today the graduate spends 2–5 or more years in hospital training with only a small fraction of his time devoted to out-patient department work. The question may be fairly asked whether it is necessary and of the greatest importance that the medical student spend the majority of his fourth year with ambulatory patients who can be studied only during their brief and occasional visits to the clinic. May such education lead to rather superficial observations and knowledge? The organization of the curriculum reflects to a degree the objectives of a school.

Other schools are less concerned with a student's technical proficiency and breadth of knowledge than in indoctrinating him in sound, thorough methods of studying patients which will lead to accurate diagnosis and an understanding of their illness as well as an appreciation of them as persons. The development of technical proficiency, professional competency, and knowledge which must be gained by experience are left to his years of internship and residency training.

Perhaps we should consider the influence of the number of students admitted to a medical school on the school's ability to reach its objectives. If the faculty has the attitude that the practice of medicine is a highly personal type of endeavor and requires that the student as well as the patient receive the personal attention and close contact with instructor and professor, then the faculty becomes frustrated when the class size becomes so large that the student becomes a number in a grade book and his work with patients is given only superficial supervision by those members of the faculty with professional rank. I believe it is for this reason that the majority of medical schools in this country admit classes ranging from 75 to 125 students. When the class size surpasses this number the faculties have found it difficult to know students personally and to give them the individual guidance they require.

In concluding this talk I will try to summarize briefly the objectives of undergraduate medical education as I view them. The first objective of a medical school faculty is to seek out and select the best students that can be attracted to the school. The next step is to guarantee that the student gains knowledge of the basic sciences as they primarily pertain to medicine. He should be given the principles and methods on which these sciences are based, orientation as to the directions in which new knowledge is being devel-

oped, and indoctrination into the experimental method—i.e., he should understand how an observation or a study of an accumulation of facts may lead to an idea which can be subjected to test by experimentation and its validity proved or disproved; and, in the course of the experiment, new facts or concepts may emerge which his curiosity may drive him to pursue. In the clinical years he should be instructed in the methods by which this scientific knowledge is applied to the study and understanding of people and their diseases. He must study people and how they behave. His professors, by example, can best establish for him the ideals and the ethics for the practice of medicine. If they are kindly, sympathetic, and sincerely interested in their patients it is probable that the student will be caught by their spirit and will follow their example.

If we agree that the two most important elements in a medical college are its students and its faculty, then there exist two major obstacles to the attainment of the highest medical educational objectives by the schools of this country. The first obstacle is the inability of many schools to select and exert control over the staff members in a fairly high percentage of their teaching hospitals. This I have already documented. The second obstacle is the restriction on the admission of students imposed by the trustees or controlling boards of the medical colleges. We know that approximately half the schools in this country restrict admissions on the basis of the geographical location of the student's home, his religion, and, in a few instances, on the basis of sex and of color. The segments of the public supporting these schools seem more concerned with offering a medical education to the sons and daughters of residents of a state or to members of a certain faith than with the quality and competency of the doctor graduated by their schools who may care for the people of any state, race, creed, or color. I attended a national meeting recently at which the provision of medical care was the major topic. The medical profession came under serious criticism for some of its ethical practices and the incompetency of some of its members. One non-professional person, after listening to the discussion, remarked, "There must be some poor protoplasm getting into the medical profession." Under our present restrictions this is no doubt true. If our highest ideals and objectives of medical education are to be attained they must be understood by the public supporting our medical colleges.

The Medical Teacher

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"... And to teach them this art if they shall wish to learn it, without fee or stipulation and that by precept, lecture and every other mode of instruction I will impart a knowledge of the art."

These words from the oath of Hippocrates charge the physician with the responsibility of being a teacher. There are many in the profession who have actively accepted this charge and give of their energies to passing on the fruits of their experience and study. The physician in the rural area may give of his time to the teaching of nursing aides and ancillary hospital personnel; the practitioner in the larger community may be active in his hospital's intern training program; there is also the volunteer part-time faculty member in the Medical School and the full-time academician; all are teachers, and all fill an important role in the dissemination of medical knowledge.

The basic responsibility for all of these various facets of medical education, however, rests with the full-time academician. He is responsible for setting the standards for the teaching of physicians, for establishing curricula, and for exerting the most direct influence on the developing student doctor. It is his role as a teacher, particularly in the United States, that will be primarily considered in this discussion.

This audience hardly need be reminded of the rapidly increasing demands for more and more teaching personnel in schools of medicine. There exists a growing complexity of the subject matter that must be taught, there is an appropriate and a pressing demand for a more highly trained physician, and there is always the numerical problem of providing a more effective ratio of physicians to a rapidly growing population. Those charged with the responsibility of medical education are faced with the difficult problem of increasing the size of our faculties. However, they are presented at the same time with the unique opportunity of elevating to an ever higher standard the performance and status of the medical teacher.

Until the last half of the 19th century the medical teacher was a preceptor assuming the teaching responsibility of the individual students for a period of 3–7 years. His library was made available, his "private patients" were demonstrated, his wisdom and experience dictated to the student through long hours of close association. A teaching experience so structured had much to recommend it, particularly in an era when the art of medicine far exceeded the science in medical practice.

Dr. Benjamin Chandler, preceptor of William Beaumont, doubtless was representative of the finest in this system. His qualifications were limited to the statement that he was "most skillful in his medical practice and notably in surgery." His library was limited—a partially filled 5-foot book shelf. He published no papers. However, his instructions in the practice of medicine as recorded in Beaumont's early notebooks are sage indeed. For example,

> Of all the lessons which a young man entering upon the profession of medicine needs to learn, this is, perhaps, the first—that he should resist the fascinations of doctrine and hypothesis till he have won the the privilege of such studies by honest labor and a faithful pursuit of real and useful knowledge.

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That such remarks were not idle platitudes is clearly demonstrated in reading the student's critical descriptions of patients, his recordings of surgical experiences, and his analysis of problems approached by laboratory analyses. History has long since recorded how effective Beaumont's introduction to medicine proved to be. Chandler's chief reward was the stimulation of his association with this very apt pupil. The pupil's roles as janitor, pharmacist, assistant, and driver were a minor portion of the compensation received by the teacher.

The success of preceptor teaching in early America was no doubt due to the limited amount of factual information to be dealt with, the scope of which was within the reasonable comprehension of one man. This was soon to change. It was likewise important that the preceptor was selected by the student. The teacher was of the pupil's choosing.

As medical knowledge expanded, the education of the physician became more complex and formalized. The demonstration and lecture system of teaching, patterned after the famous European clinics, was introduced into the United States in schools centered around larger hospitals and established proprietary schools of medicine. Great indeed was the impression made by the talented lecturer, often endowed with a keen appreciation of showmanship. The ability to organize and present current information and concepts in a striking fashion became the prime talent of the medical teacher. With the development of specialization in medical knowledge more highly specialized clinics and presentations were readily available, using a somewhat larger number of lecturers. Such teaching was able to make the outstanding talents of a few highly skilled teachers available to a large number of students; it was a means of teaching which was economical in faculty hours; and, when the demonstration was well done, it provided an entertaining and completely painless experience for the student.

At the turn of the century a trend toward more individualized teaching of medical students began. The student began participating in basic science laboratory teaching. In his clinical years he was taken to the bedside, first as an observer and eventually as an active participant in patient care. This trend toward individualized instruction has developed to a high degree in the medical schools in the United States, creating a multitude of problems for medical school administrators and creating an entirely new role for the medical teacher. The advantages to the student of such instruction appear to be such that, even in the face of the great economic demands caused by the necessity for larger faculties and the requisite patient and laboratory facilities, this trend toward individualized student teaching will continue.

Under this present-day approach to medical teaching what is the role of the professional medical teacher, how does he teach, whom does he teach, what are his most valued talents, where is he to come from in ever-increasing numbers, and how is he to be supported?

The medical teacher in the past, today, and in the future must always be well trained and well informed. His talents as counselor, consultant, fund-raiser, friend, committeeman, and administrator can never be allowed to take precedence over his role as a source, for the student, of critically analyzed current information. More and more will his expert knowledge be specialized. Maintaining a faculty with broad perspectives, even within specific departments, is a problem of increasing magnitude. No academic degree or board certification can define the limits of preparation for the faculty person. Only attitudes of persistent scholarly endeavor, skepticism, and analytical thinking will insure the continued productive role of the teacher. Only with such qualities can he maintain the position of respected tutor from whom the student can receive the stimulation and direction that lead to the acquisition of true knowledge.

It is increasingly apparent that the future medical teacher in the clinical sciences requires more knowledge of the basic sciences

than was needed a generation ago. The clinical teacher must have a working knowledge in one or more basic science areas; the basic scientist, an appreciation of clinical problems. Not only is such knowledge often a prerequisite of effective clinical research, but it has become a foundation of modern bedside teaching with its increasing laboratory implications.

The well informed medical teacher will be actively engaged in investigative activity. Participation in thoughtful research is essential to continued optimal effectiveness as a modern medical teacher. If he is to stimulate the student to critical thinking, if he is to play a role in the development of future investigators, and to instill in the student an appetite and appreciation for new facts and interpretations, he must be actively engaged in the pursuit of new knowledge. The student is the first to become alert to the empty critique of the teacher who himself has failed to contribute in some way to medical knowledge.

In the clinical sciences, the well informed, intellectually active medical teacher must also be a physician skilled in the practice of medicine. No basic differences should exist in medicine as it is practiced by the non-academician and by the clinical investigator and teacher. Both begin with the observation of a patient, and the same questions are raised to both. Both have limits to their ability to answer, in keeping with current knowledge. The investigator and teacher only assume the added responsibility of bringing out of their clinical experience new facts and interpretations. What better way can one prepare the medical student for the constantly changing complexities of medical practice than by sharing this responsibility with him?

The skilled practice of medicine demands that the medical teacher possess talents beyond his scholarly competence in medical management and research. It is essential that he embody all that is implied in comprehensive medical care in his clinical teaching. How meaningless the lessons of involved comprehensive medicine programs must be to the student who often sees their principles grossly ignored by their clinical teachers! On the other hand, what more effective way can one find to teach warmth, sensitiveness, and social consciousness in dealing with patients and their families than by the example of clinical teachers in the daily ward activities?

Our modern medical teacher must, then, be well informed, intellectually active, and a skilled physician. In addition, he must have an affectionate respect for the student, not so much as an individual but as a being undergoing rapid and exciting intellectual and emotional growth. His day-to-day deportment as a teacher must always be directed at allowing adequate freedom for this process of maturation, stimulating professional growth whenever possible and nurturing attitudes in such a way that this growth process will be never-ending. The teacher must be prepared to tolerate the students' errors in judgment; he must possess the patience to withstand the necessary repetition of fundamental principles and maintain an awareness of the social and emotional maturity status of the student. The medical teacher must never be allowed to lose sight of the fact that it is the student, not the faculty, who is the *raison d'être* of the medical school.

The student must always hold a dominant role in the functions of the teacher and his institution. It is difficult to understand and condone the practice of filling research laboratories with a variety of so-called technical assistants, to the exclusion of highly talented and motivated students of medicine. Likewise, medical teaching can no longer be looked upon as an opportunity for the insecure and maladjusted physician to acquire a captive audience of students to be recipients of his sarcasm and generally negative outbursts. The close contact of student and faculty and the highly individualized teaching of the present and future demand mutual respect, student for faculty and faculty for student. To attain this respect is the greatest challenge for the teacher, and likewise his greatest opportunity.

The manner in which the modern medical teacher does his teaching must be thought of in the light of some definition of the student he is to teach. The medical student today is of proved intellectual competence. He is capable of learning. He is highly motivated toward a rather well defined goal. He enjoys a high degree of social and emotional maturity. However, he has a considerable degree of doubt as to how he is to assume his responsibilities for the health and welfare of people who will depend on him in the professional role he is to assume in a few short years. It is unusual indeed for any teacher to be provided with such a select student group, possessing so many attributes conducive to learning.

How is the medical teacher to most effectively teach such students? It is recognized that the factual information is too great and the curriculum time too short for any faculty to consider providing an all-inclusive exposure of medical knowledge. The American Association of Medical Colleges has set forth the following statement concerning the goals of undergraduate medical education: "This period should provide an opportunity for the student to learn fundamental principles applicable to the whole body of medical knowledge, establish habits of reasoned and critical judgement of evidence and experience, and develop an ability to use these principles and judgements wisely in solving problems of health and disease."

The medical teacher with such a broad goal must guard against the subtle temptation of knowing he can't teach everything concerned with his subject and thus teaching essentially nothing. Even in the ever changing medical science there still remain opportunities for the thoughtful presentation of basic concepts and facts. Admittedly, it seems that such biological foundation stones are becoming fewer and fewer; however, there is still a place in medical teaching for the precise presentation of well organized basic material. The medical teacher with the ability to concisely present well prepared and current reviews will provide the students with helpful orientation. The teacher must remain constantly alert to the possibility that his favorite lecture of well organized facts may soon lose its factual value and suddenly become of historical and entertainment value only. Whereas such formal presentations were the predominating teaching method a few years ago, they appear destined to occupy a less dominating role in the future.

If the medical teacher has left the lecture hall as the major area of teaching, where and how is he to teach most effectively? He must enjoy his most effective role in close personal contacts with the student in the direction and supervision of his clinical activities or basic science experiments. Such close contact will allow him to direct and make most effective the students' reading and study hours. Most important, the teacher in this role is provided with the opportunity and very real obligation to function as a scholarly example to the student. Herein lie the greatest opportunity and obligation for the medical teacher, be his activities confined to the basic science laboratory or at the bedside. How can one more effectively introduce a student to a wholesome appreciation of biochemistry or physiology than through close personal contact with a teacher who is well informed, respects the student, who enters the laboratory and the library with scholarly enthusiasm, and who is actively demonstrating his competence and the sincerity of his enthusiasm by active research? Can a teacher of surgery teach more effectively than by his thoughtful deportment at the operating table, bedside, and in the laboratory? Here he can teach by scholarly example the place an active knowledge of basic science has in the care of the patient, the importance of maintaining a current and ever changing resource of information about disease, an appropriate respect for proper techniques, and the necessity of comprehensive thinking in his dealings with the patient.

The medical student whom we have defined as mature, intellectually competent,

and highly motivated will find attractive the curriculum where he is taught by scholarly example. Here he encounters meaningful answers to the two questions uppermost in his mind. Why is this information important? How am I to function as a physician responsible for the health of my patients?

To be effective, a program of medical teaching based on example and the close contact of student with teacher is dependent upon a continued supply of high-caliber students and an increasing number of highly qualified medical teachers. Is it reasonable to assume that we can look to the future with confident expectations of meeting the faculty demands of such a teaching program?

If this question is to be answered in the affirmative the young physician and scientist must be able to see in medical teaching an attractive career in which he can expect to find the highest degree of professional respect, satisfaction, and opportunity for accomplishment. He must be provided some assurance of adequate financial security.

With increasing attention being given to the problem of attracting outstanding young men to careers in medicine, serious consideration can be given to the means by which the possibility of academic careers can be brought to the attention of the undergraduate pre-medical groups. Might the picture of a medical career be more attractive to an intellectually outstanding young man or woman if our presentation of the physician's role were not limited to that of the dedicated practitioner forging through snow banks in the middle of the night?

In the medical school itself the present-day faculties have an increasing obligation for presenting to students more opportunities in medical teaching and research. Faculties must become more alert to the student with promise and inclination for an academic career. They must have a willingness to relax the precise definitions of the curriculum and to provide a stimulating research experience for certain of the students. Such practices are of proved effectiveness in initiating lifelong careers in academic medicine.

The residency and postgraduate training programs in clinical sciences must include more opportunities for investigative work and also provide some exposure to the satisfactions of teaching. It is unfortunate that certifying boards in many of the medical specialties have failed to recognize research activity as an acceptable part of a physician's preparation. In this way they have discouraged an occasional outstanding young physician from deviating from the burdensome list of "requirements" to taste the satisfactions of an original research or teaching experience. The same practice has removed from those responsible for training programs one stimulation to provide this type of opportunity.

If our need for medical teachers is to be satisfied, research and teaching stimuli to the undergraduate and graduate student must be encouraged and expanded with full recognition of their expensiveness in facilities and in faculty time. The effectiveness of such programs is dependent entirely on the effectiveness of individual faculty supervision and direction. Here again the success of any program dealing with the student physician, be it in precise teaching of subject material or, in this case, in attracting him to a way of life and a productive career in academic medicine, can be most effectively achieved by precept and stimulating example. How better can we insure an adequate supply of medical teachers than by exposing our students in their formative years to teachers whom the student can respect as individuals, as persons of stature in the professional community, as scholars and researchers, as teachers who are leading a satisfying and reasonably secure existence?

Thus the responsibility for an adequate supply of medical teachers for the future rests with those of us who are teaching today. The present-day faculty must attract and stimulate, chiefly by example, young students to become academicians. The community must accept the responsibility of

their financial support. Present-day investigators and teachers in our medical schools can approach the community for such support without apology for their past record. The elevated standards of medical care and the striking contributions of research in our medical schools clearly demonstrate how profitable the investment has been in academic medicine. To continue and extend this record is the responsibility of our medical faculties. To bring to the community the opportunity of improving medical practice by increased financial support of academic medicine is likewise our responsibility.

Nowhere are the financial handicaps of teaching and research more real in reducing academic ranks than at the junior levels of teaching appointments. Certainly the first effort to improve the financial status of medical teaching must be directed at the level of instructor and senior research and teaching fellow. Much is being done, but much more needs to be done to provide both increased salaries and improved research facilities for these young men at the height of their enthusiasm, originality, and dedication. Certainly a most effective and desirable way of shortening the prolonged period of costly preparation necessary for an academic career is to provide adequate salaries earlier. In addition, the outstanding young physician, capable and interested in teaching and research, can be no more effectively tempted away from the office of private practice than by a reasonably well equipped laboratory in which to work. Our success in preventing the loss of outstanding young men from the faculties of medical schools today and in attracting new generations in adequate numbers is dependent in large part upon our ability to apprise the community of the wisdom of increasing the investment in medical education and the example of desirability the faculty establishes for medical teaching as a career.

The demand for increased numbers of medical teachers must be faced in the next few years. Expanding volunteer and part-time clinical faculties will satisfy only a small part of this demand, and the significant increases must be met by the addition of full-time teaching and research persons. The community, through its universities, will hopefully be apprised of its opportunity to improve health practices by increasing its investment in medical education.

The medical schools will hopefully demand the best of our students for faculty careers, in which they will establish stimulating, scholarly examples and, through personal contact, enthusiasm, and dedication to many classes of students, will elevate the standards of performance of endless numbers of physicians.

In conclusion, one can look to the following quotation, from Henry Van Dyke, as summarizing much of what has been said in this discussion of the medical teacher: "Knowledge may be gained from books, but the love of knowledge is transmitted only by personal contact. No one has deserved better of the republic than the teacher. No one is more worthy to be involved in a democratic aristocracy, 'King of himself, and servant of mankind.'"

The Medical Student

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It is indeed a pleasure to join with you in the discussions of these several days in which we are considering the philosophy of United States Higher Education, the objectives of medical education in particular, the medical student, the medical teacher, and programs of education for doctors who have graduated from Medical School. I have been asked to confine my remarks this morning to "The Medical Student," but I realize, as I am sure you do also, that it is almost impossible to discuss the topic "The Medical Student" without trespassing upon the assignments which have dealt and are to deal with educational philosophy, medical teaching, basic objectives, and programs of continuing education.

The medical student has been the center of my interest now for 40 years. Except for 2 years in the military service during the first World War, I have been constantly associated with young men and women who have decided upon a career in Medicine. Five of these years were spent in China where, from 1920 to 1925, it was my fortunate and happy experience to select and teach students at the Peking Union Medical College. Later, at the College of Physicians and Surgeons of Columbia University, where I have just completed 33 years of service, I have seen 35 classes numbering more than 4,000 students graduate with the M.D. degree. This comprises nearly two thirds of the living graduates of our school. For the last eighteen classes I have chaired the committees responsible for student selection, instruction, and hospital appointments as interns. I have reviewed nearly 35,000 applications for admission to medical school. I cite these facts not only to demonstrate my long-standing interest in the medical student, but to suggest that by this time I could be expected to have formed some fairly definite opinions about him. Many of these opinions have already been expressed on various occasions, and I hope that you will forgive me if I borrow rather freely from these previous expressions.

Last year, 1956–57, statistics reveal that 7,791 students entered upon the study of medicine in the United States, while 6,796 graduated with the M.D. degree. The number of applicants for admission was 15,918 or about 2.1 applicants per available place. This percentage was much higher in the late 1940's, and somewhat lower 3 or 4 years ago. It would seem certain that, with the present trend of constantly increasing enrollment in the liberal arts colleges, the ratio of applicants to admissions is due to rise sharply in the years ahead. These figures have importance, for the quality of an accepted class seems to improve as the ratio of applicants to accepted students increases. This generalization, however, does not always necessarily follow, nor is the relationship directly proportional.

May we now deal briefly with the questions, "Who are these medical students?" and "From where do they come geographically?" Our own school annually reviews applicants from every state in the union and from many foreign countries. However, on a national scale, 40 per cent of all first-year students in the United States schools are reported to have come from six states (New York, Pennsylvania, Illinois, Ohio,

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California, and Texas) where there are either high concentrations of population, or of liberal arts colleges, or both. On the other hand, ten states furnished only 2.3 per cent of the students who entered medical school in 1956–57, and in eight of these states the ratio of medical students per 100,000 population was well below the national ratio of 4.7 per 100,000. Thus there are large areas, especially in the West, from which few students of medicine originate.

From what economic strata do the students come? Are medical students class-related? One hears it said not infrequently that, because of the long period of formal education required of the medical student (21–25 years), only the children of well-to-do families can afford to study medicine. I do not have national figures, but a recent analysis of our own medical students surprisingly showed that more than one fourth of the student body at Columbia comes from families whose average income is reported to be $5,200. It would seem, therefore, that, with the opportunities for financial assistance from scholarships, loan funds, and employment, any competent and healthy boy or girl can study medicine if he or she chooses to do so.

May we turn now to the heart of our discussion of the medical student. What should be his qualities, his qualifications to enter the profession? Especially, what shall be the character of his pre-professional education? How can he be adequately prepared to discharge the heavy professional responsibilities which he will be obliged to assume?

It is at once obvious that the field of medicine offers a diversity of professional opportunities and responsibilities, perhaps unequaled by any other profession. The medical school should admit and educate persons whose ultimate professional goal may be teaching, research, administration, private practice, public health, or industrial medicine—to mention only a few of the many diverse fields of interest. It is, therefore, also obvious that "a standardized applicant" is not the answer to a committee on admissions. No one person could possibly prepare himself to present the optimum educational qualifications which each of these specialized areas of medicine would require. So we must look for certain qualifications which are basic and desirable in all medical students, regardless of the specialization they may later decide to follow. Common agreement on these basic qualifications and a sure means of finding out whether or not they are present in an applicant are the two chief problems to which a committee on admissions of a medical school must address itself.

Throughout the years and despite changing trends and changing emphasis, the sciences biology, chemistry, and physics have been basic components in educational programs which attempt to prepare students for medical school. These disciplines have frequently been referred to as the doctor's "tools of trade," and without tools no one can work effectively. We know that the miraculous progress which medicine has made during the past 50 years has resulted largely from scientific discoveries and the application of our knowledge in the natural and physical sciences. This situation will be only accentuated in the future, as our understanding of scientific phenomena and their application to matters of health and disease deepens. Today the rapidly expanding dimensions of medical science stagger the imagination, and no one is able even to keep abreast with what is being discovered, to say nothing of developing the competences which are necessary to make a personal contribution to our scientific knowledge in some highly specialized area. Increasing specialization is the order of the day and will continue to be so. Try as we may to shorten the already too long span of formal instruction, we are faced with the fact that each year brings a vastly increased store of scientific knowledge with which the competent physician would like to become critically familiar. Were he to devote every working hour in an attempt to achieve this goal, he would still find it completely beyond his reach.

The educational problem is further complicated by the fact that professional competence in the physician must go far beyond having a large accumulation of scientific know-how. Although the general public gives evidence that it appreciates the unique contributions which the scientifically trained doctor is making to man's health and happiness, it has also roundly criticized him, especially in recent years, for his failure to develop within himself a greater social sensitivity and a sense of social understanding. Many people have not hesitated to express dissatisfaction with the relations they as patients have had with their physicians. They feel that the doctors have become too scientific, too busy, too preoccupied, perhaps too commercial, to concern themselves with the personal problems of their patients. They have suggested that, although the physician, who is not usually a specialist in a limited area of medical practice, has become skilled in the scientific management of certain specific diseases, he has lost the human touch and is no longer interested in the patient as a person. For this professional behavior he is brought into sharp and unfavorable contrast with the family doctor of yesteryear, who is acclaimed because he appreciated the importance of social and environmental factors in the treatment of a patient's disease. He won the patient's confidence and affection because he was careful to take into account "the social relationships of man—his way of living, his family, his work and his reactions to people and things about him, his emotional stresses, anxieties, fatigues, pleasures or an inherent emotional constitution," all of which combine to make up the total individual and have an important bearing upon a proper understanding of his health or disease.

It has been considerations such as these which have resulted in a widespread movement to broaden and liberalize the educational program of the prospective physician, even though it adds more things to be learned in a program that is already too long. But scientific knowledge, I repeat, is not enough. Some years ago Lord Horder wrote: "The student's pre-medical program is lopsided; almost from the moment a boy or girl decides to be a doctor, the confines of his or her interest tend to become more and more narrow. Medicine, which should have the widest contacts of any profession, almost ceases to be a liberal education, for its cultural outlook dwindles from this moment."

What added acclaim should be Sir William Osler's today were he able to say again what he wrote many years ago, "The wider and freer a man's general education, the better practitioner is he likely to be, particularly among the higher classes to whom the reassurance and sympathy of a cultivated gentleman of the type of Eryximachus may mean much more than pills and potions. In no profession does culture count for so much as in medicine, and no man needs it more than the general practitioner, working among all sorts and conditions of men, many of whom are influenced quite as much by his general ability, which they can appreciate, as by the learning of which they have no measure."

The widespread demand today that our medical students be not only permitted but urged to include the disciplines of the humanities and social sciences in their educational programs has met with hearty approval both within and without the profession. These disciplines have a unique educational value in that they force anyone who explores them to have a good look at himself and his relationships with other people in society.

We meet here one of the most important and perplexing problems which the medical educator faces today. How can we include in the educational program all of the essential disciplines whose subject matter a prospective doctor now needs to acquire: the basic sciences, the social sciences, and the humanities. Even 4 years in the liberal arts college is hardly time enough. And yet we are convinced that his education is already taking too long and must be shortened. It seems that we cannot develop the kind

of doctors we need and want unless we increase his years of education, and yet we feel certain that many highly desirable students are turning away from the study of medicine because they feel that it takes too long and costs too much to be educated for a medical career.

In 1956–57, 6,212 of the 8,014 students who began the study of medicine had spent 4 years in the liberal arts college, although only 5,849 had earned a baccalaureate degree. This is a larger percentage (73 per cent) than we found in 1950 when a National Survey of Pre-professional Education was made by a committee supported by a grant from the John and Mary Markle Foundation. The added time in the liberal arts college is, I believe, due largely to a trend to include courses in the humanities and social sciences in the so-called prescribed "pre-medical" educational program. In 1950 we pointed out that liberal arts colleges everywhere were beginning to recoil from the pressures which made them more and more vocational schools. The pre-medical student had, in fact, focused the attention of many colleges upon one of the most important issues in higher education today, namely the conflict between vocational training and liberal education. We urged that there was nothing imaginary about this conflict; it existed, it was real, and it had to be faced. The trend to stay for 4 years in the liberal arts college not only permitted more acquaintance with the disciplines of the humanities and the social sciences, but, in an increasing number of schools, the fourth year became a culminating year in which the student entered upon advanced independent study in some academic discipline. Nothing surpasses this experience in its educational value for the student. The student who goes on to medical school after 3 years of liberal arts usually has a lopsided education—overweighted in the sciences. He usually passes up the valuable contributions of the humanities and the social sciences, and he rarely has the opportunity to practice and develop the techniques and habits of independent study.

For these reasons many of us deplore the various schemes now being suggested, and even being put into practice in several quarters, which reduce the time to be spent in the liberal arts college. Not only is the program of the liberal arts college again being put in jeopardy, but our future doctors will increasingly be deprived of the broadening education which is so essential to the physician if he is to live a full and highly competent life as a practitioner in his profession and a citizen in his community.

Every academic discipline, then, which enables the student to widen his understanding, to broaden his sympathies, to increase his social, political, and aesthetic insight serves him immeasurably in the development of better rapport with his patients, or with his colleagues. Moreover, it is in the disciplines which normally deal with attitudes and values that the student most readily relates the subject matter to himself, and himself to society. It is here that in realizing the complexity of the problems inherent in the functioning of our highly complex society, in attempting to relate the present to the past, and the part to the whole, that a student becomes aware of himself and his relation to all human experience, past and present. It is here that he thinks seriously about attitudes and the rules of life [A. E. SEVERINGHAUS, *in:* The Annual Conference on Higher Education in Michigan. *Univ. of Michigan Official Publication*, **56:** 7-22, 1954].

It is here that he adds a sense of values to the professional competence and a well developed sense of social understanding which may already have been acquired.

For, given a man has these, to what end will he direct his energies and abilities? The character of the pattern will depend not upon his knowledge nor yet upon the ability which he may have in dealing with human and social situations, but, as the late President Dougherty of Carnegie Institute of Technology once pointed out, "upon his attitude, upon the way he looks at things. These attitudes have some of their principal roots in value judgments; and these judgments in turn can depend critically upon education."

Not only in college but from earliest childhood and throughout life, the search for values must go hand in hand with the search for knowledge. And what can one hope to discover? In a sense, himself—one's own measure of integrity, both personal and social, the soundness of one's motivation, the stability of one's emotions and one's capacity for growth, passion for truth, selflessness, social sensitivity, one's tolerance of the differences among people, one's ability to respond with imagination and creatively to changing situations, one's reverence for life and personality and for the dignity of man. This is an attainment not casually achieved. Whatever the difficulties in acquiring factual knowledge of the physical universe, they are simple when compared with gaining knowledge of ourselves.

"Make it thy business to know thyself," said Cervantes, "which is the most difficult lesson in the world."

In 1954 Winston Churchill wrote in the same vein. "Man in this moment of history has emerged in greater supremacy over the forces of nature than has ever been dreamed of before. He has it in his power to solve quite easily the problems of material existence. He has conquered the wild beasts, he has even conquered the insects and the microbes. There lies before him, if he wishes, a golden age of peace and progress. All is at hand. He has only to conquer his last and worst enemy—himself."

And so I have actually stated the qualities which one hopes to find in every prospective physician. May I rename them: integrity, both personal and social, sound motivation, emotional stability, capacity for work and growth, a passion for truth, selflessness, social sensitivity, tolerance of the differences among people, imagination and creativity, especially in changing situations, reverence for life and personality and for the dignity of the human spirit. The individual who possesses these qualities will be not only a good physician, but a good husband or wife, a good mother or father, a good neighbor, a good citizen; in short, a good human being who wins the respect of his family and of his fellow man and at the same time lives with dignity, serenity, and self-respect.

Education after Medical School

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Medical knowledge today is expanding at an ever increasing rate. Today's physician must cope with the double problem of managing a busy practice and keeping abreast of the host of changes in medicine—changes in basic knowledge, in diagnostic techniques, in remedies—which will continuously alter the manner in which he practices. The thoughtful, well trained physician recognizes that a 1950 brand of medicine will not suffice in 1958 and, similarly, that 1958 medicine will be sadly out-of-date in 1965. Accordingly, the years in medical school are thought of as merely the beginning of a lifetime of study.

The first step in the process of education after medical school is, of course, the internship. Almost all the graduates of American medical schools today serve internships, customarily for a period of 1 year. Traditionally the internship is the period during which the recent graduate learns to put into practice the basic principles he has learned during his years in medical school. In 1956, 11,895 internships were offered in this country, and there were only 6845 graduates in the same year. Figures for the other years are similar. Many internships are thus not filled or are filled with graduates of foreign medical schools. The majority of internships are of the rotating variety, where the intern spends portions of his time on each of several services such as medicine, surgery, pediatrics, etc. In the straight internship, the intern spends the entire period on a single service.

In an ideal internship, the intern has responsibility for the care of his patients but also is carefully supervised in his activities by skilled clinicians with teaching interests and abilities. Unfortunately, some hospitals exploit the intern, looking upon him merely as a cheap source of labor while neglecting their educational responsibilities to him. Such hospitals, of course, experience difficulties in obtaining interns, while the most attractive internships are those in hospitals with good educational programs.

A number of physicians enter practice upon completion of the internship, which for them constitutes the completion of their formal medical education. This does not mean that their education ceases; they continue it informally in various ways which will be discussed subsequently.

Many other physicians choose to continue their formal education in the form of residency or fellowship training, generally referred to as "graduate medical education." During the residency, customarily 3 or 4 years in duration, the physician devotes himself to the study of the specialty of his choice, e.g., surgery, dermatology, etc. As his experience and skill increase, so does the measure of responsibility that he assumes toward his patients.

In some residencies, particularly those in teaching hospitals, the physician has an opportunity to teach and to participate in research. In many such cases, a lifelong interest in one or both of these activities is stimulated, and the physician may ultimately join the staff of the teaching hospital and the faculty of the medical school with which the hospital is affiliated. In any event, experience in teaching and investigation provides an excellent background for the practice of medicine.

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The physician completing a residency in a specialty generally takes the American Board examination in that specialty. Many Boards provide that an additional period of 1 or 2 years' duration must lapse between completion of formal residence training and the examination itself, during which the candidate is expected to be accumulating additional experience in the practice of his specialty. In any event, however, most physicians enter practice upon completion of their residency training.

It should not be inferred that all residencies are for the purpose of specialty training. There are a number of residencies offered today specifically designed for the physician who wishes to enter general practice. Generally 1 or 2 years in duration, these residencies emphasize training in medicine, pediatrics, obstetrics, and emergency surgery including fractures.

Once in practice, regardless of the type and extent of training, generalists and specialists alike are faced with the problem posed in the opening paragraph, namely, that of keeping abreast of the myriad changes which will affect their practices. To do this they employ various measures, exclusively or in combination, depending upon their individual interests, preferences, and practice situations.

The measures employed may be classified into two principal groups: (*a*) those activities in which the physician participates independently and (*b*) those in which the physician participates as a member of a group. Foremost among those activities which the physician pursues independently is, of course, his reading of the medical literature. This is probably the best way in which the physician may keep informed, but, from some standpoints at least, it is also the most difficult. Today's literature is vast in quantity and seems to be growing at an increasing rate. It is literally impossible for one person to keep up with all significant medical literature or even with that portion of the literature relating to his own particular field of interest. Then, too, the busy physician, tired after a long, hard day with its many physical and mental demands, is all too often understandably reluctant to spend his evening in medical reading.

Another independently pursued activity of postgraduate education is the consultation. Often considered merely from its service standpoint, this is frequently overlooked as an important means of education. The physician seeking consultation should expect to gain knowledge from it which will help him deal with similar or related problems in the future, and, similarly, the consultant should look upon his consultative activities in this light.

The activities in which the physicians participate as members of groups include a host of medical meetings of various types and more formal postgraduate or continuation courses. Meetings include county and state medical society meetings, hospital staff meetings, meetings of special societies, and meetings of national organizations. Meetings vary from the 1-hour evening meeting to meetings of a week, or occasionally even longer, in duration. In some instances their purpose may be primarily business, or primarily social, rather than educational. In general, scientific programs of meetings are designed for their broad general appeal and do not tend to cover specific subjects extensively.

Many hospitals, especially the somewhat larger hospitals, have developed fine postgraduate programs for members of their staffs, and these programs include such things as autopsy conferences, clinical pathological conferences, radiologic conferences, and regular staff meetings with scientific programs, often including guest speakers. Hospitals with internship and/or residency programs are, as might be expected, most likely to have well developed teaching programs. In such instances, staff members also profit from their association with the interns and residents. Usually the educational program in such a hospital is directed by a single person, very often the radiologist or pathologist. Some of the larger hospitals of this type now employ an education director, whose sole responsibility is the development

and management of the educational program.

Although formal postgraduate courses were held even before the turn of the century, their development has flourished particularly since the end of World War II. At the end of the war, a good many medical officers, upon their return from military service, felt the need of returning for a period of formal training in order that they might bring their knowledge up-to-date before entering or re-entering practice. Since the war the number of such courses given has increased markedly, and today almost every institution of medical leaning is engaged to some extent in giving courses. According to a report made by Dr. Douglas Vollan in 1954, the number of courses given in 1952–53 was 1,382, and the total attendance was 64,608 physicians. Courses vary from 1 day to several months or even a year or more in duration, but the most popular form is the course lasting 3–5 days. Subject matter is similarly varied. Some courses deal with rather broad subjects such as medicine or surgery, whereas others are restricted in scope to narrower subjects, e.g., endocrinology, thoracic surgery. Courses may be "refresher" in type, i.e., courses which review well known facts and established procedures, or they may be designed to provide only new information. Most often, courses combine both of these features.

Most continuation or postgraduate courses are sponsored by medical schools, but some are presented by independent societies and some by large hospitals. Physicians attending them generally pay tuition fees, although most programs are not self-supporting but require subsidization of some sort. Such courses combine, in varying proportions, didactic lectures, laboratory experience, conferences and seminars, and work on the hospital wards and out-patient clinics.

In this brief survey of education after medical school, educational television, two-way radio conferences, and the use of records of excerpts from the medical literature have not been discussed. All these, and other activities not mentioned, play a role in postgraduate education of the practicing physician. The field of postgraduate medical education, like medicine itself, is one characterized by constant change and experimentation with new ideas, techniques, and methods. It is impossible to state that any single method is best. Suffice it to say that the good physician will give careful attention to the matter of continuing his professional education throughout his entire medical career and that he will choose that method or those methods which best suit his needs.

A Plan for Administering Professional Fees at a Teaching Hospital

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INTRODUCTION

As a result of many factors, medical schools have found that they are using to an ever increasing extent part-pay or full-pay patients in their clinical teaching programs. It is important that teaching hospitals care for these paying patients. First, in many teaching hospitals these patients are essential if the medical school is to have an adequate number of patients for a sound teaching program. The current economic situation and changing patterns of paying for medical care leave few indigent patients. Second, many physicians out in practice wish to obtain for the benefit of their patients the special skills or facilities available at the teaching hospital. Hence, they refer patients having diagnostic or therapeutic problems to the teaching hospital. Third, for many medical schools the fees received for the professional care of part-pay and full-pay patients have been important in providing income for full-time faculty members.

Arrangements made in teaching hospitals for caring for paying patients and for charging, collecting, and distributing professional fees from those patients have been the subject of considerable discussion in several medical communities. Such discussions are particularly active in the localities of newly established medical schools or medical schools that are planning to open a university hospital. Physicians in private practice may fear that their practice may diminish when the teaching hospital and clinic begin to function. Experience usually shows that the presence of a teaching hospital and clinic actually increases the professional work of all well qualified physicians in the community. Private physicians practicing in a city with a state university medical school may complain that state funds are being used to subsidize the private practice of the full-time faculty members. Arrangements can be made to charge overhead costs against the professional fees received by faculty members, or the support that the university gives to the care of paying patients may be regarded as a benefit given by the university to the faculty member in lieu of added salary.

Difficulties may arise over the methods of charging, collecting, and distributing professional fees. If the geographical full-time system is used, it is possible that a faculty member may supplement his income to a very significant extent through professional fees. Occasionally, particularly in high-earning specialties, such supplementation has been excessive and has emphasized the need for some type of control which can be exercised by the medical school through the dean or the department chairman.

Efforts to control the income from fees for paying patients have met with many difficulties. The medical school and the faculty member have been confronted with the Scylla of corporate practice on the one hand and the Charybdis of income tax vulnerability on the other.

Corporate practice has been charged against those methods which require the physician to turn over to the medical school all fees received in excess of a certain

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amount. The fact that the individual physician is required by the medical school to turn his fees over to the institution is the crucial and objectionable feature. This, it is held by some, constitutes the corporate practice of medicine.

Income tax problems complicate the picture if the physician voluntarily turns his fees over to the medical school. Fees received by him but voluntarily turned over to the school are considered to be a part of his taxable income. He may be exempted from paying taxes on them only to the extent that he is permitted deductions for charitable gifts. If he is required by his agreement with the medical school to turn these fees over to the institution, they do not appear to be a part of his taxable income. Then, however, the charge of corporate practice may be raised.

A plan is herein proposed which permits the individual full-time faculty member to charge professional fees and receive payment of these fees and to retain ownership and control over them. At the same time the medical school is able to determine the maximum income which the full-time faculty member will receive. Overhead costs for facilities and personnel may be withdrawn from the physician's professional fees before they are turned over to him, thus eliminating any criticism of subsidization of his practice on paying patients. It does not appear that this plan involves corporate practice nor that the individual physician is vulnerable to any unfair income tax liability.

DEFINITIONS

It will be helpful to define certain terms which will be used in the discussion below. *Estimated fee income* refers to the income from professional fees after overhead costs have been withdrawn which it is estimated that the faculty member will receive during a given year. *Maximum allowable income* is equal to the salary plus the estimated annual fee income. *Maximum allowable monthly income*—is equal to one twelfth of the maximum allowable annual income.

PRINCIPLES AND PROCEDURES

1. Fees are charged by the physician, collected for him by the medical school or hospital business office, and belong to him.

2. Overhead costs are withdrawn from collected fees before the money is deposited in the physician's account.

3. Income for any given month may not exceed the maximum allowable monthly income.

4. Professional fee income available in excess of the maximum allowable monthly income is deposited in a professional fee reserve where it is held for the physician and is the physician's property. Undistributed salary money goes into a salary reserve and remains the property of the university.

5. Professional fee reserve monies, when available, are always used for income in preference to salary or salary reserve funds.

6. Professional fee reserve monies, when available, are always utilized up to the maximum permissible monthly income.

7. If annual professional fee income does not exceed the estimated annual fee income, the individual receives his full annual salary.

8. If professional fee income exceeds the estimated annual fee income, the salary paid by the university is reduced by an amount equal to the amount of excess.

9. In no case does the individual receive more than the maximum allowable monthly income.

10. At the end of the fiscal year the physician receives any money left in the fee reserve as long as his annual income does not exceed the maximum allowable annual income.

11. At the end of the fiscal year, if there is no professional fee reserve money available, the physician may receive salary reserve money up to that amount which will bring his income to the maximum allowable annual income.

12. Fee reserves available after the financial adjustment at the end of the fiscal year shall be carried over and considered in making the financial arrangements for the new fiscal year.

13. Upon termination of employment, professional fee reserves are paid to the physician. Salary reserves remain the property of the University.

HOW THE PLAN OPERATES

In the great majority of cases the plan operates as any geographical full-time system. The physician determines the amount of the fee to be charged for each of his patients. The mechanics of mailing and collecting fees is simply handled for the physician by the business office acting as his agent. Monies received for professional fees are deposited in the physician's account and are paid to the physician at the end of each month after the previously agreed upon overhead charges have been withdrawn. Since, in the vast majority of cases, the physician's supplemental fee income will be well within the estimated monthly fee income, he will receive his full salary each month from the university. In Table 1 are illustrated the salary and professional fee income by months. This is the typical situation in which professional fees are well within the estimate. In the illustrations given throughout this discussion, professional fee income is that received and available after overhead costs have been withdrawn.

It is only the occasional physician in a high-earning specialty whose fees present a problem if one is to avoid the criticism of corporate practice of medicine on the part of the university and income tax vulnerability for the physician. Two examples are given to show how this plan would work if professional fee income exceeds the maximum allowable.

The physician whose income is illustrated in Table 2 is off service the first quarter of the year, receives no supplemental professional fee income, and hence is paid his regular salary. During the second quarter of the year professional fee income after overhead costs are withdrawn exactly equals the estimated monthly maximum. He, therefore, receives $500 each month of professional fee income and his regular salary of $1,000 a month throughout this second quarter. During the third quarter, he again is off service and has no professional fee income. He, therefore, receives only his university salary during these 3 months. During the fourth and final quarter of the year, professional fee income increases sharply,

TABLE 1

EXAMPLE OF INCOME SCHEDULE

	Salary			Professional fees					Total income			
		Paid			Earned	Supplement paid					Total income allowable	Difference between total cum. income & total inc. allowable
Earned cumulative	Mo.	Cum.	Reserve	Mo.	Cum.	Mo.	Cum.	Reserve	Mo.	Cum.	cumulative	
1000	1000	1000	0	200	200	200	200	0	1200	1200	1500	300
2000	1000	2000	0	300	500	300	500	0	1300	2500	3000	500
3000	1000	3000	0	100	600	100	600	0	1100	3600	4500	900
4000	1000	4000	0	400	1000	400	1000	0	1400	5000	6000	1000
5000	1000	5000	0	200	1200	200	1200	0	1200	6200	7500	1300
6000	1000	6000	0	300	1500	300	1500	0	1300	7500	9000	1500
7000	1000	7000	0	0	1500	0	1500	0	1000	8500	10500	2000
8000	1000	8000	0	0	1500	0	1500	0	1000	9500	12000	2500
9000	1000	9000	0	0	1500	0	1500	0	1000	10500	13500	3000
10000	1000	10000	0	200	1700	200	1700	0	1200	11700	15000	3300
11000	1000	11000	0	100	1800	100	1800	0	1100	12800	16500	3700
12000	1000	12000	0	300	2100	300	2100	0	1300	14100	18000	3900

Income Agreement		Income Summary	
Annual Salary	12,000	Salary	12,000
Estimated annual fee supplement	6,000	Professional Fees Received	2,100
Maximum annual income	18,000		
Maximum monthly income	1,500	Total Income	14,100

TABLE 2

EXAMPLE OF INCOME SCHEDULE

	Salary			Professional fees					Total income			
				Earned		Supplement paid					Total income allowable cumulative	Difference between total cum. income & total inc. allowable
Earned cumulative	Paid Mo.	Paid Cum.	Reserve	Mo.	Cum.	Mo.	Cum.	Reserve	Mo.	Cum.		
1000	1000	1000	0	0	0	0	0	0	1000	1000	1500	500
2000	1000	2000	0	0	0	0	0	0	1000	2000	3000	1000
3000	1000	3000	0	0	0	0	0	0	1000	3000	4500	1500
4000	1000	4000	0	500	500	500	500	0	1500	4500	6000	1500
5000	1000	5000	0	500	1000	500	1000	0	1500	6000	7500	1500
6000	1000	6000	0	500	1500	500	1500	0	1500	7500	9000	1500
7000	1000	7000	0	0	1500	0	1500	0	1000	8500	10500	2000
8000	1000	8000	0	0	1500	0	1500	0	1000	9500	12000	2500
9000	1000	9000	0	0	1500	0	1500	0	1000	10500	13500	3000
10000	0	9000	1000	2000	3500	1500	3000	500	1500	12000	15000	3000
11000	0	9000	2000	1500	5000	1500	4500	500	1500	13500	16500	3000
12000	0	9000	3000	1500	6500	1500	6000	500	1500	15000	18000	3000
Final Adj	2500	11500	500			500	6500	0	3000	18000		0

Income Agreement		Income Summary	
Annual Salary	12,000	Salary	11,500
Estimated annual fee supplement	6,000	Professional Fees Received	6,500
Maximum annual income	18,000		
Maximum monthly income	1,500	Total Income	18,000

TABLE 3

EXAMPLE OF INCOME SCHEDULE

	Salary			Professional fees					Total Income			
				Earned		Supplement Paid					Total income allowable cumulative	Difference between total cum. income & total inc. allowable
Earned cumulative	Paid Mo.	Paid Cum.	Reserve	Mo.	Cum.	Mo.	Cum.	Reserve	Mo.	Cum.		
1000	0	0	1000	1500	1500	1500	1500	0	1500	1500	1500	0
2000	0	0	2000	1500	3000	1500	3000	0	1500	3000	3000	0
3000	0	0	3000	1500	4500	1500	4500	0	1500	4500	4500	0
4000	1500	1500	2500	0	4500	0	4500	0	1500	6000	6000	0
5000	1500	3000	2000	0	4500	0	4500	0	1500	7500	7500	0
6000	1500	4500	1500	0	4500	0	4500	0	1500	9000	9000	0
7000	1500	6000	1000	0	4500	0	4500	0	1500	10500	10500	0
8000	1500	7500	500	0	4500	0	4500	0	1500	12000	12000	0
9000	1500	9000	0	0	4500	0	4500	0	1500	13500	13500	0
10000	500	9500	500	1000	5500	1000	5500	0	1500	15000	15000	0
11000	500	10000	1000	1000	6500	1000	6500	0	1500	16500	16500	0
12000	500	10500	1500	1000	7500	1000	7500	0	15000	18000	18000	0

Income Agreement		Income Summary	
Annual Salary	12,000	Salary	10,500
Estimated annual fee supplement	6,000	Professional Fees Received	7,500
Maximum annual income	18,000		
Maximum monthly income	1,500	Total Income	18,000

reaching or exceeding the maximum allowable total monthly income. He, therefore, receives his total maximum allowable monthly income of $1,500 a month paid entirely from his professional fees and, in fact, has $500 extra go into his professional fee reserve. During these same 3 months, he receives no funds from his university salary. His university salary, therefore, goes into the salary reserve. At the end of the fiscal year, he has, therefore, received $9,000 of his university salary and $6,000 of income from professional fees—a total of $15,000. He has available in his professional fee reserve $500. The university has available in his salary reserve $3,000. He is eligible to receive an additional $3,000 to bring his annual income up to the maximum allowable figure of $18,000. In the final income adjustment, therefore, he receives first the $500 from the professional fee reserve, and $2,500 from the university's salary reserve. This completely clears his professional fee reserve, and the university retains $500 in the university salary reserve.

In the third example, the physician whose income record is shown in Table 3 is on service and has a high income from supplemental fees during the first quarter of the year. Each of the first 3 months he receives professional fees totaling $1,500 above overhead costs which represents his total maximum monthly allowable income. He is, therefore, paid no funds from his university salary, and $3,000 goes into the university's salary reserve. During the next two quarters, or 6 months, he is off service, and professional fee income drops to zero. Since funds are available in the university's salary reserve he receives his regular monthly salary of $1,000 plus $500 each month from the salary reserve. Therefore, during the fourth through the ninth months his salary reserve is being reduced by $500 each month so that at the end of the ninth month he has received $9,000 in university salary and $4,500 of professional fees, an income which totals $13,500 which is his maximum allowable income for the first three quarters of the year. During the fourth and final quarter he is once again on service and professional fee income is received. $1,000 is received each month in professional fees after overhead costs have been withdrawn. He, therefore, receives $1,000 professional fee income plus $500 of salary to make his monthly income equal to the maximum allowable—a monthly income of $1,500. At the end of the fiscal year, he has received $10,500 in university salary and $7,500 in professional fee supplemental earnings—a total of $18,000. There are no funds in the professional fee reserve and the university has $1,500 in its salary reserve.

Studies are now being made to determine the best method of handling the university's participation in the retirement program of the individual faculty member. In specialties in which professional fee income forms a relatively high portion of the maximum allowable income year after year, it will be necessary to give special consideration to the sabbatical leave salary provisions of individual faculty members. Studies are now under way in this connection.

SUMMARY

A plan is proposed which appears to offer the university an opportunity to set the salary and maximum income for its full-time faculty members without the problem of corporate practice of medicine, subsidization of private practice of the full-time faculty member, or unfair income tax vulnerability on the part of the individual faculty member.

Agreements between Medical Schools and Non-University-owned Hospitals
A Preliminary Report*

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INTRODUCTION

The purpose of this paper is to evaluate a file of information assembled in the office of the Association of American Medical Colleges, principally since May 6, 1957. At that time, in an informal memorandum, the executive director invited all deans to report the nature of their official relationship with non-university-owned hospitals being used in educational programs. The inquiry made special reference to the content of contracts and agreements, payment of monies to or by the hospitals, or exchange of services on a planned basis.

Although certain limited information was previously available in the files, this general information request was justifiable on the basis of repeated inquiries for methods and techniques of establishing satisfactory relationships with hospitals and health agencies not owned by the university. The percentage of response was exceptionally high, considering the frequency with which information requests gravitate to the desks of deans. Only four failed to respond. The replies ranged all the way from brief, punctilious notes to lengthy descriptive narratives of evolving relationships. In certain instances where formal contracts or agreements were available, copies were enclosed. These letters and documents form the basis of this preliminary report.

Since the original request for information was subjective and not intended to resemble the modern questionnaire with all its built-in features for subsequent punch-card analysis, this report is essentially clinical in nature. As such, it may or may not suggest the value of a full-dress study utilizing the accouterment common to current modes of investigation.

BACKGROUND

A look at the domain of the American hospital of today from any angle leads the observer to examine briefly its origins and the influences which have shaped its destiny. In 1751, Dr. Thomas Bond, a distinguished Philadelphia physician, and Benjamin Franklin merged their respective professional understanding and public relations know-how in a successful move which gave their city Pennsylvania Hospital. It opened its new building in December, 1756, as a voluntary hospital, similar to non-profit institutions of today. This blending of Quaker humanitarianism and scientific interest became the natural milieu for the development of both service and research.

Bond and Franklin saw in this first American general hospital an educational, as well as a service organization, accessible to both the indigent and the affluent. A teaching museum which began with a skele-

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ton in 1757 was supplemented by a gift of anatomical casts and drawings from Dr. John Fothergill, of London, in 1762. The next year Fothergill's gift of William Lewis' *An Experimental History of the Materia Medica* began a library. The staff thereafter undertook to support and encourage the founding of a medical library which they judged would "tend greatly to the Advantage of the Pupils and the honor of the Institution."

When Dr. Samuel Bard of New York gave the first commencement address for the medical department of Kings' College in 1769, he pleaded eloquently for medical education and the establishment of a general hospital for clinical teaching. The petition for a charter for New York Hospital in 1770, and a subsequent request to the Legislature for a grant in 1792, both avowed the educational intention of the institution.

This sense of educational mission which pervaded these and other early American hospitals came to be a pattern for both public and private hospitals which were of sufficient size and near enough to medical schools to share with them a common interest. The first effort to take a census of American hospitals occurred in 1873 when Dr. Joseph M. Toner compiled a list of 178 institutions—general and special; charitable, tax-supported, and proprietary. Only eighteen of these hospitals had more than 400 beds, and 36 had less than 100; but they reported 309 resident medical officers. The total attending staffs were reported as only 580 members—less than the clinical faculty in some medical schools today. The hospital movement in the United States did not reach its stage of phenomenal development until the past half-century. The advent of anesthesia, aseptic surgery, x-ray, laboratory medicine, and other technological advances, not to mention great increases in urban population, war casualties, and a changing social philosophy, are well known factors contributing to the crescendo of hospital construction in recent decades.

When Abraham Flexner made his study of medical education nearly 50 years ago, he candidly noted the almost utter lack of a true educational connection between medical schools and their related hospitals—hence, his great emphasis on school-hospital agreements designed to provide the basic necessities for sound clinical instruction.

THE STUDY

Several reports on which this study is based were incomplete as to the number and nature of the relationship of non-university-owned hospitals involved in educational programs, but it was possible to identify 278 which are utilized or served in some manner. They are classified here as 123 non-profit, 112 public or tax-supported, and 43 church-related hospitals. The study does not include Veterans Administration Hospitals, which have rather uniform relationships with medical schools. The nature of the relationship, rather than the total number of hospitals involved, is important, but it is more difficult to determine. Using the terminology employed by Dietrick and Berson, I classified these hospitals as follows:

1. *Integrated.*—The teaching hospital having close relationship with a medical school, physically, administratively, and financially; and having certain major common objectives, mutually understood and supported.

2. *Affiliated.*—The teaching hospital which, although it maintains its autonomy and independence of action in every respect, senses the value of educational activities within its wards, out-patient services, and laboratories, and to that end grants staff and teaching privileges in varying degrees.

3. *Associated.*—The hospital having a relationship to a medical school primarily for the purpose of elevating and maintaining an effective house officer training program, or to provide the school with very limited clerkship privileges.

The term *affiliated* has been, and still is, used broadly to describe all sorts of university-hospital relationships. You will note its limited application within the context of the above definition. Attempts to categorize institutions functionally according to neat definitions are not a strictly scientific

operation. I am fully aware that there are degrees of integration, affiliation, and association. There is, at best, only a thin veil between these groupings, but they embrace the broad spectrum of relations between the universities and the hospitals which they use, but do not own. The types of hospitals in this study are classified by relationship in Table 1.

Fundamental to this study has been an effort to discover the organic basis, simple or complicated, on which these inter-institutional relationships rest. With a minimum of "guestimates," the available information justifies the following types:

1. Legally drawn documents signed by corporation officials of the university and hospital, incorporating a comprehensive statement of common interests, mutual understanding, and a declaration of bilateral duties and obligations assumed by the contracting parties; or the equivalent in non-legal, less pretentious, nevertheless comprehensive statements of mutual understanding and intent.

2. Routine letters of commitment or acknowledgement, or brief memoranda, without the existence of comprehensive, long-range documents.

3. Oral tradition and progressive mutuality, sometimes described as "informal" or "gentlemen's" agreement.

TABLE 1

HOSPITALS CLASSIFIED BY RELATIONSHIP

1. General Hospitals:		4. Tuberculosis Hospitals:	
Integrated	53	Integrated	4
Affiliated	79	Affiliated	9
Associated	39	Associated	0
	171		13
2. Mental Hospitals:		5. Special Hospitals:	
Integrated	3	Integrated	14
Affiliated	14	Affiliated	19
Associated	3	Associated	8
	20		41
3. Pediatric Hospitals:			
Integrated	15		
Affiliated	13		
Associated	5		
	33		

Here again we note that these inter-institutional understandings do not sort themselves automatically into precisely labeled pigeonholes. This classification is, nevertheless, convenient and fairly accurate for purposes of a preliminary study.

In the case of the 53 "integrated" general hospitals (Table 2), 36 are publicly owned. The "integrated" relationship in 24 rests upon a legal contract or its equivalent. Four are based upon letters or memoranda, and eight are sustained by gentlemen's agreements. Only seven non-profit and four church-related hospitals are integrated on a contractual basis.

In the affiliated group of 79 hospitals (Table 3), the non-profit group leads with 33, but only ten are based upon a contract. Few of the 25 public and 21 church-related hospitals' affiliations are contractually based. The relative shift in emphasis from the public to the non-profit and church-related hospitals in the "affiliated" group is noticeable. This may be due in part to the tradition that indigent patients only are for student observation and practice. Also, it may reveal a reticence on the part of trustees of private institutions to enter into long-range contractual agreements which will, without doubt, alter the profile of the hospital and modify its original objectives. Then, there is the local medical community, the staff in particular, which hesitates to encourage the hospital to go beyond an "association" (Table 4) or limited affiliation,

TABLE 2

53 GENERAL HOSPITALS—INTEGRATED

	No.	Non-Profit	Public	Church
By contract	35	7	24	4
By letter	7	1	4	2
Informally	11	2	8	1

TABLE 3

79 GENERAL HOSPITALS—AFFILIATED

	No.	Non-Profit	Public	Church
By contract	16	10	5	1
By letter	22	9	7	6
Informally	41	14	13	14

for fear, as individuals, they find themselves dispossessed or curtailed in hospital privileges.

As every medical man knows, in the United States the vast majority of hospital beds available to the mentally ill is provided by the state. It follows, then, that medical schools having relations with mental hospitals other than their own would, in most instances, have such relationships with state hospitals (Table 5) and that integration with such large institutions would be difficult to consummate. Hence, fourteen of the twenty are "affiliated."

TABLE 4

39 GENERAL HOSPITALS—ASSOCIATED

	No.	Non-Profit	Public	Church
By contract	1	0	1	0
By letter	17	9	1	7
Informally	21	12	7	2

TABLE 5

20 MENTAL HOSPITALS

	No.	Non-Profit	Public	Church
Integrated:	3			
By contract	2		2	
By letter	1	1		
Informally	0			
Affiliated:	14			
By contract	3	1	2	
By letter	5		5	
Informally	6		6	
Associated:	3			
By contract	0			
By letter	2	1	1	
Informally	1		1	

A thoughtful consideration of this mode of providing clinical facilities for the teaching of psychiatry suggests the thought that an "affiliation" or "association" with a large state hospital, particularly if it is inconveniently remote, is no substitute for a smaller psychiatric unit operated by the university on the medical school campus.

Of the 33 pediatric hospitals included in the study (Table 6), fifteen are integrated, thirteen are affiliated, and five are associated. That 26 are non-profit hospitals merely supports the observation that most children's hospitals are in this category.

The fact that ten of the tuberculosis institutions (Table 7) are publicly owned is of course, only typical. Three public and one non-profit hospitals are integrated. These thirteen sanatoria may represent a vanishing breed.

TABLE 6

33 PEDIATRIC HOSPITALS

	No.	Non-Profit	Public	Church
Integrated:	15			
By contract	10	8	1	1
By letter	4	3		1
Informally	1	1		
Affiliated:	13			
By contract	4	4		
By letter	5	4		1
Informally	4	4		
Associated:	5			
By contract	0			
By letter	2	1	1	
Informally	3	1	2	

TABLE 7

13 TUBERCULOSIS HOSPITALS

	No.	Non-Profit	Public	Church
Integrated:	4			
By contract	2		2	
By letter	1	1		
Informally	1		1	
Affiliated:	9			
By contract	1		1	
By letter	3		3	
Informally	5	2	3	
Associated	0			

TABLE 8

41 SPECIAL HOSPITALS

	No.	Non-Profit	Public	Church
Integrated:	14			
By contract	14	12	2	
By letter	0			
Informally	0			
Affiliated:	19			
By contract	3	1	1	1
By letter	7	3	3	1
Informally	9	7	2	
Associated:	8			
By contract	1	1		
By letter	5	2	2	1
Informally	2	1	1	

The 41 special hospitals and health agencies (Table 8) are too much of a miscellany to justify generalizations. This group includes such institutions as eye, ear, nose, and throat hospitals, women's hospitals, public health laboratories, and speech centers, to name only a few.

For the meat of this study we return principally to the general hospital. Although 35 of the 53 integrated general hospitals base this relationship on a well-defined contract, it cannot be argued that, to be well integrated, there must be a contract. We all know of compatible relationships dating from the nineteenth century which never have been reduced to a written agreement. Even these time-honored agreements might be improved if negotiations leading to a contract were started with a clean sheet and if forgotten conflicts were not revived. Nevertheless, a common-law marriage, if happily consummated, may be better undisturbed. Younger institutions needing to strengthen their educational programs in related hospitals should undertake to define an ideal relationship in documentary form.

The document which most commonly supports an integrated or affiliated relationship is legally phrased. It identifies the contracting parties and introduces a brace of "whereases" which define areas of mutual interest and the expected benefits to both parties, if the terms of the agreement are carried out. The body of the contract systematically lists and defines the duties of each party and the conditions under which they are to be fulfilled.

Contracts have been drawn for 1 year, 2 years, 4 years, 10 years, 15 years, and for indefinite periods. They usually make provision for arbitration of differences and for cancellation on written notice of from 3 months to 4 years. These documents deal with any number of such items as: heat, light, custodial care, food service, nursing care, medical services, technical and professional personnel, medical students, house staff, and attending staff. Some contracts appear to be the result of an effort to reduce to legal form a relationship which has evolved over many years on a basis of a "gentlemen's agreement" or the exchange of letters, as occasion may have arisen. Others obviously are the result of a clean start when tradition and long-standing practices have been bypassed.

One formal agreement, dating from 1928, with a group of hospitals known to be well integrated, states frankly and early in the document that the school of medicine of the university shall have exclusive teaching, research, and clinical privileges in the hospitals and dispensaries of the group; that the department heads of the school shall, subject to the approval of the hospitals, be the directors of corresponding departments in the hospitals; and that the medical staffs will consist exclusively of the members of the teaching staff of the school of medicine, and will be appointed annually by the hospitals on nomination of the university. In this instance the university is empowered to submit a further nomination if some nominee is unacceptable to the hospital. This agreement gives the hospital the right to appoint the house staff. With an attending staff fully identified with the school of medicine, the selection, obviously, still is in the hands of the faculty.

Some contracts lead off with language which suggests that the appointment and control of the attending staff is a school function, only to add, in subsequent paragraphs, references to a "courtesy" staff or "non-teaching" staff which is appointed by the hospital with little or no influence by the medical school. Other agreements say little about non-teaching staffs, but imply much by restricting faculty beds to a fraction of the total. These observations are not a criticism of such documents, but are offered merely as an indication that integration, at its best, is not likely to take place when the school does not exercise the controlling influence in the appointment of the attending and house staffs and in the filling of the beds. "Affiliated" is a better designation for some teaching hospitals whose university relationships are curtailed by these and other limitations.

In the data examined there are very few instances of complete integration. An excellent example is that of the University of Rochester School of Medicine with the Rochester Municipal Hospital. The contract requires that the University provide complete medical and surgical care of the pa-

tients without cost to the city, as well as many other services and facilities which are provided gratis, or at cost, by the University. This ideal relationship is, no doubt, simplified by the physical union of the Municipal Hospital building with the University Hospital plant.

In many integrated and affiliated relationships, joint committees have been established to represent the school and the hospital. They benefit from the support of trustees who are sympathetic with medical education, but they also face the political hazards peculiar to the administration of tax-supported hospitals and voluntary hospitals which have strong community ties.

Information concerning financial exchanges for services rendered to or by medical schools or their related hospitals is not available in figures suitable for comparison or generalization. It is even more difficult to estimate the dollar value of bartered services when no financial compensation was contempated. Some deans made rough estimates; others felt that there is no basis for an accurate calculation. Schools frequently pay for space occupied, supplies used, and the salaries of full-time hospital staff members who actually spend the majority of their time in patient care. In a few instances, the university subsidizes the hospital administrator's salary or pays all or part of a salary for a director of education in a hospital. The hospital usually does not pay for patient care service other than that of laboratories, x-ray, and anesthesia, if the university contracts to provide these services. In one instance a medical school receives an annual sum of $750,000 for providing all laboratory, anesthesia, and autopsy services. Full-time clinicians who carry important medical school responsibilities can be found on hospital payrolls.

A notable example of a very large, public, integrated hospital paying two medical schools for the professional services of their faculty attending staffs is the Los Angeles County Hospital, which pays to the College of Medical Evangelists and to the University of Southern California annual sums running into six figures based upon clock hours of faculty time spent in patient care and house officer education. Also, each school agrees to purchase, install, and maintain within the Hospital each year a minimum amount of equipment for research. The equipment is, and remains, the property of the school.

It should be pointed out that both of these schools are investing in their activities within this Hospital each year (exclusive of research equipment, which minimum they exceed) considerably in excess of the amounts received for services. Also, these school investments do not include the grants-in-aid of research utilized by the faculties within the County Hospital. The way is paved for such arrangements with a large, tax-supported institution when far-sighted supervisors renounce the custom of injecting politics into the care of indigent sick and permit the hospital staff to be drawn exclusively from medical school faculties. This is a far cry from Flexner's report that the Los Angeles County Hospital would not permit medical students to handle surgical patients, and that teachers were not permitted to conduct bedside clinics when it was possible to remove the patients from the wards.

If a school and hospital are seeking a general formula for division of costs in an integrated relationship, the following principles are basic, but are not necessarily the solution to all troublesome fringe problems which must be settled by wise administrators and intelligent, understanding joint committees.

1. The hospital is financially responsible for all services, including such professional areas as radiology, anesthesiology, physical medicine, and all service laboratories.

2. The school is financially responsible for all education and research.

3. The cost of a house staff, increased by reason of teaching responsibilities assigned to certain residents, may well be shared by the school according to a percentage formula.

This three-point program is essentially the basis for the Yale University and Grace-

New Haven Community Hospital relationship. The same could be said of others, but often the picture is confused by gives and takes which, although practically justifiable, make a study of this subject less rewarding. If and when there is developed a pattern of medical school cost accounting which will interdigitate with a similarly designed system for teaching hospitals, studies in the financial relations between them will be most promising.

THE MEDICAL CENTER

A development of vital importance to schools and non-university-owned teaching hospitals is the evolution of the medical center concept. Flexner urged the stronger surviving medical schools to seek or to strengthen their university ties administratively, financially, and educationally. In effect, he invited the universities to come down from their ivory towers and throw their academic robes around these surviving prodigal sons. This having been done, medical education began to ride the crest of a tide which has swept it into the realm of big business. As early as the 1920's, some medical educators began to visualize a large general hospital with all services or a group of selected institutions clustered around a medical school as a pattern of things to come. Before the close of the decade the term "medical center" was in use, and several schools were desirably established as the nucleus of such a functional group. Subsequent history is familiar to all.

In the study of these agreements, one finds himself toying with questions which may be regarded as no part of his assignment, yet they are persistent questions. When is a "Medical Center" a *medical center?* Is an aggregation of hospitals a medical center? Is a medical center the creature of a university? Is it a partnership between the university and one or more selected hospitals? Because of their sheer bigness or their organic capacity to become even gigantic, will fortuitous events some day snap medical centers from their university moorings and make of them independent institutes of the health sciences? The cult of bigness has erected many shrines in modern America. That bigness is here to stay is inevitable. That it must be achieved at the expense of greatness is not inevitable. Therein lies the problem.

Stanford University's decision to unite its medical school in Palo Alto and to join with the city of Palo Alto in the establishment of a "Hospital Center" led to the drafting of a legal document which creates a separate corporation under the control of both parties. The trustees of the Center are fully empowered to operate the combined hospital within the limits of an agreement which, in my opinion, preserves the integrity of the city and the greatness of the university, and enhances medical education. This document should be studied to be fully appreciated.

An even more interesting development in the field of corporate relations between a university and teaching hospitals which it does not own is the establishment of the Harvard Medical Center. Seven hospitals have joined with the Medical School in forming a corporation designed to create the most favorable environment possible for medical education, service, and research. A noticeable feature of the organization is the central place of influence and leadership conferred on the Medical School and the dean. The "Articles of Incorporation" clearly reveal that this corporation is Harvard-bred and indirectly, if not directly, Harvard-controlled. The descriptive brochures directed to administrative personnel, faculty, and alumni are exceptionally well expressed. Here, again, is a recent program, rich in an understanding of school-hospital relations and an appreciation of greatness in medical education.

CONCLUSIONS

Please permit me to moralize briefly. Under American democracy all hospitals, whether they be general or special, have not been cast in a single mold. In medi-

cal education we believe that each school should develop, within the limits of integrity, its own ideas and objectives. Freedom in such matters is characteristic of our way of life. We simply do not want a central government bureaucracy shaping the profile and destinies of medical education.

This being true, there rests squarely upon medical schools and their related hospitals an abiding obligation to clarify their common objectives and merge their resources in an intelligent effort to upgrade medical education, service, and research. There are, indeed, many local problems which are not immediately solvable. Thus a healthy challenge is ever present.

As a result of this preliminary study, I am convinced that the leaven of democracy is working to the advantage of medical education at the level of school-hospital relations. This may be true in spite of, and not because of, the fact that the technological revolution in our democratic culture seems to have glorified the superlative as an end in itself. There are significant evidences that the cult of bigness has not displaced the love of greatness in American medical education.

The Dalhousie Post-Graduate Program An Experience in Continuing Medical Education

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The Faculty of Medicine at Dalhousie University is the only one in Canada's four Atlantic Provinces. Nova Scotia, New Brunswick, Prince Edward Island, and Newfoundland occupy 94,000 square miles of lake-studded rolling forest land, broken into peninsulas and islands, with a coast-line of better than 8,000 miles (see Chart 1). Here, 1.8 million hardy people live modestly in an economy based on lumbering, fishing, mining, and farming, cared for by 1,400 doctors. There are only five communities over 25,000 and eleven others over 10,000 population. Except in Halifax, Saint John, and St. John's, hospitals are small, and general practice, regardless of specialty training, is the rule. Weather renders transportation uncertain from November to May in most areas.

Recognizing that, in such circumstances, the doctors were deterred from attendance at post-graduate meetings in Eastern Canada and the New England States, Dalhousie introduced a Refresher Course, annually repeated since 1922. Upon receipt of a Kellogg Foundation Grant in 1950, the Dalhousie Post-Graduate Committee was formed. Within 6 years, its continuing education program for general practitioners had extended into all four provinces and had outgrown committee management. Last year the Post-Graduate Division of the Faculty of Medicine was established. Within its structure, the Dalhousie Refresher Course Committee and the Post-Graduate Committee continue to function, and provision has been made for the conduct of all other post-graduate activities delegated to it by the faculty. First such additional activity has been a course in basic sciences for residents in training at the University-affiliated hospitals in Halifax.

The intramural program in Halifax has four facets:

1. The Dalhousie Refresher Course is a predominantly didactic, 5-day meeting held each October. Medicine, Surgery, Obstetrics, and Pediatrics are regularly included, and specialty fields are presented in rotation. The Dalhousie Faculty is assisted by from three to five visiting authorities. Attendance varies from 150 to 200.

2. Three- to 5-day courses in specific fields are presented 6 times each year for small groups, averaging twelve in number. A few lectures are presented, but seminars and clinics predominate. Courses in Anesthesia, Obstetrics & Care of the Newborn, Psychiatry, Medicine, Surgery, and Obstetrics-Gynecology are offered. In Medicine and Surgery a different sub-specialty is featured each year.

3. Special meetings are addressed by authorities from other centers in Canada, from Great Britain, Europe, or the United States. These are open not only to practitioners but also to the senior medical students,

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serving to bring the post-graduate program to their attention.

4. A 12-month rotating general practice internship in the University-affiliated hospitals and, in addition, short periods of in-hospital training of 2 weeks to 3 months are arranged on request.

Between 15 and 20 per cent of our practitioners attend these intramural courses. Those who do tend to return annually and are often active in initiating extramural programs in their home areas.

The extramural program takes three forms:

1. Two-day refresher courses have been conducted in cooperation with groups such as the College of General Practice and local medical societies in St. John's and Cornerbrook in Newfoundland, and Saint John, New Brunswick. One-day courses have been conducted in Moncton, New Brunswick, and in New Glasgow and Cornwallis in Nova Scotia.

2. Isolated meetings have been held conjointly with branches of the four provincial medical societies and the College of General Practice. The majority have been didactic, but an increasing number of ward rounds and seminars is being requested. Outside Nova Scotia these meetings are often arranged on consecutive days in different communities, as in one week of a circuit course, to conserve travel time and expenses. In Northern New Brunswick, French language speakers have been sponsored.

3. The regional course, organized by the Division and a branch medical society, consists of six consecutive weekly meetings,

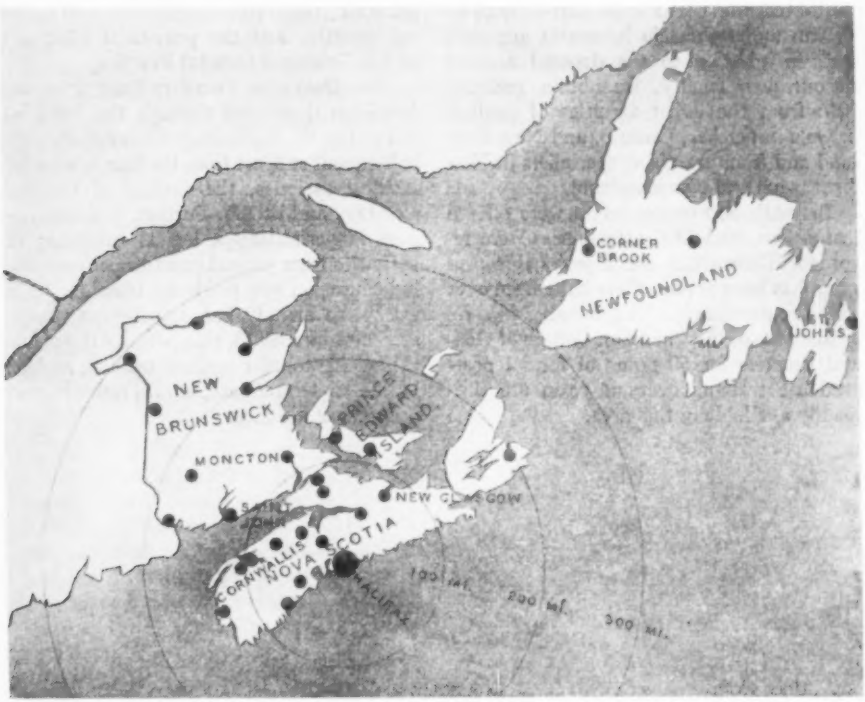

CHART 1.—Refresher courses conducted in named centers; regional courses or special lectures conducted in all centers marked.

held in a conveniently located regional hospital. Originally didactic, they are becoming increasingly clinical, though only rarely are patients brought forward for examination. Fifty to 75 per cent of the doctors practising within a 40-mile radius attend. The savings in time and money through not having to be away from practice more than one half day, the lack of need for a locum, and the personal choice of topics discussed make these meetings the favorite of most practitioners. The teachers, all specialists, are brought face-to-face with problems of general practice in the country and return to the University better equipped as undergraduate teachers.

On the other hand, travel expenses are high. Time lost from undergraduate teaching and income lost from private practice are limiting factors in the volume of extramural teaching that a small part-time faculty can undertake. No honoraria are paid, but, in addition to the devoted services of our own faculty, we obtain generous help from the larger faculties of medical schools in Quebec, Ontario, and New England and from practising specialists in New Brunswick and Newfoundland.

In total, 360 course hours were offered last season, and 1800 attendances were recorded. Throughout the 7 years this program has been active, there have been over 13,000 attendances. The membership requirements of the Canadian College of General Practice for 50 hours of formal postgraduate training every 2 years are thus readily available in this area.

The division is organized in a horizontal fashion, cutting across the conventional vertical structure of the Departments of Medicine, Surgery, Obstetrics, etc. An advisory committee meets annually. Its members are representative of the four provincial medical societies, the superintendents of the teaching hospitals in Halifax, the faculty departmental chairmen providing post-graduate courses. An Executive committee meets monthly. Its members are elected by the faculty in a rotating fashion and serve for 3 years. They represent Medicine, Surgery, Obstetrics, Pediatrics, Basic Science, and General Practice. The chairman of the Refresher Course Committee, the Dean, and the director of the Division are ex-officio members. There is close liaison and much inter-dependence in the programming of post-graduate activities by this Division and all other groups such as the provincial medical societies and the provincial Chapters of the College of General Practice.

The Dalhousie Post-Graduate Program has been developed through the financial aid of the W. K. Kellogg Foundation, with subsequent support from the four provincial medical societies, the College of General Practice, and others. Further Kellogg support is permitting a logical extension of activities from general practitioner continuing education into residency training. Since Dalhousie already has a fifth-year undergraduate internship, this permits the medical faculty to offer medical training at four levels—undergraduate, intern, resident, and general practitioner.

The Role of the Social Worker in Teaching Fourth-Year Medical Students

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Increased participation of social workers in medical teaching has come with the acknowledgement by medical educators of the importance of social factors in the diagnosis and treatment of illness. Recognition of social and emotional factors in illness of course is not a new addition to medical school curricula. At the end of the last century Dr. Osler had his medical students make house visits to patients with tuberculosis. Later, students at Johns Hopkins Hospital volunteered their services to social agencies to make home visits, while other leading medical schools established similar programs geared toward teaching the relationship between family tensions and living conditions, and illness. Social workers participated in these programs. The American Association of Medical Social Workers has long been interested in the teaching functions of its members, publishing reports in 1939 (2) and 1948 (5), the last in conjunction with the Association of American Medical Colleges.

During the past 10 years considerable progress has been made in defining even further the functions of the social worker who participates in medical education (3, 4, 6). Much remains to be explicitly formulated, however. In the belief that the appropriate role of the social worker in a teaching program for medical students must continue to be of interest to medical educators engaged in or planning programs of total care, this paper describes what has been learned about the problem in one such program over a period of several years.

In 1951 the New York Hospital–Cornell Medical Center established a Comprehensive Care and Teaching Program, devoted to the improvement of fourth-year teaching and out-patient care through application of comprehensive care principles. Still in existence, this program has been described elsewhere by Reader (7, 8) and Barr (1). Here, therefore, it is sufficient to note that the Director of the Social Service Department of the hospital was a member of the interdisciplinary Advisory Committee which helped plan the program, and that from the beginning a social worker was a member of the program's staff. Entitled "Social Service Coordinator," her participation in the program was initially seen as primarily in the area of family care, where she assumed major responsibility in the selection of cases and provided social service to families and liaison with community agencies. In the ensuing years of participation in the program her role in teaching fourth-year medical students has developed and become more clearly defined, with the result that it is now possible to offer a tentative description of the methods, content, and skills involved in the medical teaching functions of the social worker.

The social worker uses *direct* teaching methods in relation to the referral of patients to social service, case consultation, teaching rounds, community agency confer-

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ences, and patient-care seminars. As will be seen, she also uses a variety of *indirect* methods.

DIRECT TEACHING METHODS

Referrals to Social Service.—After seeing a patient in the General Medical Clinic, a student may have questions or concern about the patient's personal life adjustment with which he believes the social worker can help. If so, he discusses the problem with the social worker, and he may make a formal referral. In the discussion he presents the social problem along with his formulation of how social factors have contributed to the course of the patient's illness; he is also expected to express an opinion on how the problem might be solved. The social worker then outlines what her contribution might be to the patient's care. After having seen the patient the social worker remains in touch with the student, discussing with him her findings and plan.

For example, a student referred an elderly patient with heart disease to social service for help in planning leisure time activity. The patient was described by the student as a 67-year-old widow, experiencing some of the very common problems of isolation and feelings of uselessness with resulting bodily over-concern. The student felt that joining a golden age club would help her make a more satisfactory adjustment, but he did not know what facilities would be available in the community, what these facilities would offer, or whether the patient would benefit from a group experience. The patient was then interviewed independently by the social worker who ascertained that the patient showed some interest in joining a club but was more anxious to continue with her part-time job as a baby-sitter, which she had relinquished when she became frightened by her physical symptoms. Discussion with the student followed, during which the patient's work status was clarified. The patient's anxieties were considered in detail. Subsequently, the patient joined a golden age club. She was reassured about her health, and, as her symptoms diminished through adequate medical supervision, she was eventually able to return to her job.

Thus in teaching through referrals, the social worker contributes to the student's learning by means of her independent knowledge of the patient's life adjustment and of community resources, as the student gives medical care and the social worker carries continued responsibility for the patient's social adjustment. It is estimated that each year approximately 400 referrals are made to Social Service by students.

Case consultation.—Occasions arise when the medical student uses the social worker as a consultant. In this case the social worker does not carry responsibility for the patient, but her teaching functions are quite apparent.

Consultation may take many different forms. It may be a brief request for information on community resources. The student passes the information on to the patient, who is then able to choose the appropriate agency without further help; information on nursery schools is frequently sought in this way. Even in a simple request the student is required to outline the patient's problem in order to obtain the pertinent information from the social worker. Other requests for consultation may be how to help a patient consent to surgery, how to involve family members in the care of a patient, or they may deal with information on cultural attitudes toward illness. Consultation of this last type requires contact on a somewhat deeper level, with more detailed discussion of the patient's needs and the student's role. On occasion a consultation may become a referral, and the patient is carried collaboratively. However, through the use of consultation the student has a unique opportunity to assume the major responsibility for a patient with expert help. It is furthermore found that he is able to transfer knowledge gained through this method to other patients under his care. Requests for consultation are received on an average of two or three a day.

Teaching rounds.—Participation in medical teaching rounds and group conferences

gives the social worker further opportunity to teach. In the Comprehensive Care and Teaching Program this is exemplified in Home Care rounds which are held weekly and attended by ten to fifteen students who care for patients at home.

The Home Care Program gives the students an opportunity to care for housebound patients with acute, chronic, or terminal illnesses. Under appropriate supervision most students have responsibility for one such patient over a prolonged period of time. These patients are known to social service and to community nursing services, and thus a unique opportunity is provided for the student to participate in the collaborative process. The student frequently meets informally with the social worker who is giving service to his patient, but during Home Care rounds teaching points can be reinforced more formally. The rounds are conducted under the leadership of the Director of Home Care, an internist, while the medical preceptors and the social work and nursing coordinators participate. Patients who present problems in management or diagnosis are presented for group discussion. Topics discussed may be purely medical, such as the management of pulmonary edema or chronic varicose ulcers. Depending on the patient, however, nursing needs may be highlighted, and on many occasions social factors which play an important part in the general medical management of a patient receive discussion. Problems that come up frequently are: how to help a patient accept hospitalization for chronic care, both from the point of view of working with the attitudes of the patient or his family and with respect to the facilities available in the community; how terminal care can be provided within the home; and the types of help that can be given to the patient and his family by the various team members and by the community. More general topics planned for discussion include the doctor's role in terminal care, as well as variations in family and cultural attitudes toward illness and, more specifically, toward patient care and family relationships in the face of the stress. By experience and training the social worker is equipped to discuss these subjects and can add much to the ability of the students to provide total medical care to patients confined to their homes.

Community agency conferences.—Another teaching tool is the community agency conference which may be requested by the student, the social worker, the medical staff, or the agency for the purpose of exchange of information and future planning on behalf of patients under joint agency and hospital care.

For instance a conference was requested by the social worker from a community agency which provided homemaker service for a home care patient. The patient, a young woman, was almost totally incapacitated by pulmonary hypertension. She was home-bound and unable, during her husband's work hours, to assume responsibility for her two small children. Apart from her physical limitations, the patient was extremely anxious about herself and her prognosis and placed numerous demands on the homemaker. The agency had provided the service over a prolonged period of time and maintained a close contact with the hospital. Attempts had been made to place its best homemakers with this family because the serious nature of the medical problem was recognized. It was when the patient requested another change in homemakers and longer hours that the agency requested a group conference to determine the patient's prognosis and her ability to assume some form of responsibility for the children. The Home Care Director, the medical student, the program's nurse and social worker, and three representatives from the agency attended the conference. The student gave the history of the patient's illness, described the management, and gave a tentative prognosis. He was well aware of the patient's emotional problems and the difficulties she had had in accepting a homemaker. The social worker from the agency described her work with the family and the difficulties in finding suitable homemakers; in a more general way she pointed out how her agency functioned

in the community. The medical student thus became very closely aware of the organization of a large community agency, its method of operation, its ability to cooperate in the medical care of a patient, and of course its concern with the welfare of the whole family.

Patient care seminars.—The teaching methods thus far described have been based on service to patients or demonstration of service. The student in his clinical years is interested in patient management, and it therefore seems logical to use variations of the case method in teaching rather than didactic methods. However, the use of case material need not entirely preclude didactic teaching.

In the Comprehensive Care and Teaching Program groups of ten students meet once every 4 weeks for patient-care seminars with the program director (an internist) and the coordinators of social work and nursing. The seminars are led by the program director and are prepared by the staff in advance. They deal with such subjects as the family and its place in our society, the doctor's role, the medical and social aspects of geriatrics, illegitimacy, adolescence, and attitudes to medical care in certain cultures and social classes. Students and staff are required to read articles and case histories beforehand. Though the seminars are designed so that certain areas are covered, there is free discussion, and the students are encouraged to present illustrative material from their own case loads. As might be anticipated the social worker is often called upon to discuss such topics as social growth and behavior, attitudes toward illness, cultural implications of illness, and community resources. Thus the seminars provide the social worker with considerable opportunity to transmit certain aspects of her knowledge as part of planned group discussion.

INDIRECT TEACHING METHODS

In order to teach a subject effectively it is necessary to organize student activities in such a way as to provide good case material; to set aside time for case discussions and conferences; to make available specialty consultants where necessary; and to create a positive atmosphere for learning. Formal and informal staff meetings for policy planning and programming can be considered important aspects of indirect teaching. For example, the social worker participated actively in setting up the Home Care program because she recognized the teaching elements of such a program which would bring the student into close contact with the patient and his family in the natural setting of his home.

In order for concepts of comprehensive medicine to be transmitted to students it is necessary that staff members be essentially in agreement on the basic philosophy of good medical care and on the value of the contributions that can be made by paramedical professions. While it can be assumed that a program of this type attracts professional persons able to identify with the philosophy of comprehensive medical care, they have not all had experience in working collaboratively with other professions. The social worker has therefore found it valuable to accept referrals from members of the program staff and to be available for consultation with them as well as with the medical students. The staff physicians thus gain further understanding of the functions and methods of social work and can transmit this knowledge to the medical students.

On occasion, members of the medical staff approach the social worker for advice on how to help a medical student recognize or deal with social and emotional components in patient management. For example, an elderly patient with terminal carcinoma was admitted to the Home Care Program. An operative procedure was indicated, but the patient and family refused permission on the grounds of the patient's general debility and extremely poor prognosis. The student felt that the family should be given all the facts and an opportunity to discuss these with the doctor. However, he did not do this, since he felt insecure about the medical indications for surgery and more inclined to agree with the

family. The medical preceptor's concern was how to help the student carry out his responsibility. In discussing the matter with the preceptor, the social worker was able to contribute some of her knowledge of family dynamics and attitudes toward the aged as well as her experience in social work supervision—specifically, how to help a student deal with his attitudes and gain a feeling of greater security.

This method is not used frequently, but it is an interesting form of educational consultation which cannot be overlooked.

Conferences with other social workers on the staff of the hospital's Social Service Department must also be considered an indirect teaching method. As they meet with medical students in their daily practice the social workers must be familiar with the teaching and service aims of the Comprehensive Care and Teaching Program. Problems arise on occasion when the social worker is puzzled by the student's attempt to carry a case alone or by his refusal to incorporate the social factors in his management of the patient. By discussing such problems with the individual workers or interpreting to them the needs, abilities, and shortcomings of a particular student, the social work coordinator in the program can help them to work with and teach the medical student more effectively.

CONTENT OF TEACHING

Attempts have been made to define the content of what the social worker can teach the medical student. Social workers are agreed that they do not teach the medical student to do social work. Though both medicine and social work are helping professions and both utilize interviewing, the therapeutic relationship, and diagnosis as well as some similar methods, the content of their disciplines and their functions obviously vary. Nevertheless, there are aspects of the social worker's philosophy and professional discipline which can be taught to the medical student in order to enrich his understanding and treatment of patients.

One of the most important concepts the social worker can transmit is understanding of the essential part played by *social* diagnosis in the total evaluation of the patient, that is, the relevance of systematic consideration of psychosocial factors in the clinical picture of the patient. With her specialized training and knowledge the social worker helps add to the student's skill in identifying social factors that are pertinent to diagnosis and treatment. She is called upon to demonstrate to the student how information is obtained either directly from the patient or through the community. Subsequently, she helps him to use this information in treatment, and to recognize the point at which the treatment of the patient requires the skill and knowledge of a social worker. On many occasions she is able to point out how symptoms of social conflict or breakdown can be recognized.

As has already been suggested, when a social worker participates in the education of other professional disciplines, information on community resources is considered as an important part of the content she teaches. To some extent teaching this material is frustrating both for the teacher and the students. Social agencies vary tremendously throughout the country and depend on such factors as the size of the community, the population characteristics, and the economic status. Therefore, one aim must be to demonstrate to the students the resources available in the community in which they are presently practicing, while another more important aim is to provide a general basic knowledge about social policies in the welfare field that will be applicable wherever students plan to practice and also information on ways a physician in practice can participate in community organization.

Information about certain common social problems is presented in patient care seminars, described earlier. It should be stressed that, apart from having planned content in these seminars, the social worker makes an effort to transmit the social philosophy which is basic to her discipline.

In many settings social work practice is dependent upon sound teamwork; hence, it

is a technique given consideration in schools of social work, and the social work student is expected to put it into practice and reach a certain standard of proficiency. However, teamwork is not as much a part of the practice of social work as, for instance, is knowledge about the family or the child's growth and development. By working collaboratively with the medical student the social worker certainly demonstrates the team approach; thus, teamwork is practiced rather than emphasized verbally. (It must be recognized, of course, that other team members also contribute to the student's learning to practice this approach to patients.)

A difficult question to answer categorically is whether the social worker, trained to examine her own attitudes, can or should attempt to transmit this discipline to the medical student. Involved in this question is whether the social worker is called upon to "supervise" the medical student. Supervision in social work is a specialized method combining teaching of theory with helping the supervisee to develop self-awareness for the purpose of more productive service to people. It presupposes growth on the part of the learner which is fostered by cultivating his strengths and helping him to modify his attitudes. The thought that a member of one profession might be placed in a supervisory position with respect to a member of another is somewhat difficult to accept. However, fairly frequently a close relationship exists between the social worker and the medical student which to a certain extent approximates the supervisory relationship in social work. For instance, a student was assigned a young woman who had recently undergone a valvulotomy. She had continued to have symptoms which confined her to her home, and home care was initiated. The patient was anxious, quite demanding, and of course had a number of disturbing physical symptoms. The patient called the student frequently. The student began to visit the patient less and less and did not respond to the messages she left for him. When the social worker visited the patient, the latter complained that she had been unable to reach her (student) physician. Since the question of camp for the patient's son had to be discussed, the social worker contacted the student, who offered to give the child the camp physical. During the conferences which followed the student and the social worker discussed the patient, particularly her effect on the hospital staff, namely, the fact that her complaints—about many of which nothing could be done—made the staff feel insecure. The student very quickly recognized that the patient made him feel uncomfortable and that he kept away from her as much as possible. When the social worker suggested that the patient was actually reaching out for reassurance and attention, the student accepted this. He began to make more frequent visits, and as soon as the patient became aware of his interest her anxiety lessened. The student became more enthusiastic about his medical management of the patient, who began to improve markedly.

Similar situations arise frequently in patients with terminal illnesses when anxiety is shown by the patient and his family and the student feels helpless in the face of family pressures to have something or nothing done for the patient. The social worker on the case can often help the student recognize his attitudes and feel more comfortable in his relationship with the patient.

Social work is based on a number of principles which are thought to be specific to the profession. However, some of these principles can be applied profitably to the practice of other helping professions. Some of the most pertinent of these principles, as illustrated also in the examples given above, are the patient's right to self-determination, respect for individual differences, and working with the patient at his own pace. The successful use of these principles is of course dependent upon the worker's disciplined use of self, or, in other words, her self-awareness. These attitudes present the core of her philosophy in helping every patient referred. The medical student is therefore constantly exposed to these attitudes as he discusses cases with the social worker, seeks consultation, and attends inter-dis-

ciplinary conferences. Ideally, acceptance and application of these principles follow to the extent appropriate for the practice of medicine.

SKILLS REQUIRED

The job of the social worker in an interdisciplinary teaching program is interesting and challenging. The variety of tasks assigned to her or the functions expected of her may not be considered by all as belonging to social work, but they are currently more and more accepted as such. These functions can be summarized briefly as (*a*) to integrate social work philosophy into the administrative planning and execution of the program; (*b*) to interpret social work philosophy, methods, and resources to the students and the medical staff; (*c*) to give direct service to patients; (*d*) to interpret students' needs to social workers in the hospital; and (*e*) to devote time to research and study.

The social worker must therefore have conviction about and identification with basic social work tenets. She must understand case work principles and be able to demonstrate ability to practice. She should have a variety of interests and be available and willing to step into the numerous roles expected of her by students and staff. Interest in the process of consultation and ability to interpret the functions of the social worker are essential, as is thorough knowledge of the community and of general policies of social welfare, including the limitations of social legislation and gaps in the welfare field.

Teaching is not usually considered part of the case work method, although such techniques as interpretation and guidance have an educational element. The social worker in a total care program must have interest in teaching and demonstrate some skill in this process. Experience in social work supervision is undoubtedly an asset, although different elements are involved. In teaching medical students the social worker must be able to select material from her own professional knowledge and experience that is of interest and of help to members of another profession. In order to teach well she must know the individual medical students and acquaint herself with the history, nature, and techniques of medical education and the goals of the medical school and achieve a positive identification with its educational objectives. She must recognize that education is a primary goal of the program, and be prepared to deal with any conflicts that might arise between service to patients and teaching.

SUMMARY

An attempt has been made to describe direct and indirect teaching methods which the social worker in a comprehensive care and teaching program uses in teaching the medical students the aspects of her knowledge and skill which will add to his professional competence. Individual and group methods have been described in which the social worker teaches the medical student to understand, recognize, and identify psychosocial factors pertinent to diagnosis and treatment and in which she interprets the functions of community welfare agencies. The student thus learns the functions and methods of the social worker and gains understanding of aspects of her professional philosophy which can be a valuable resource in his later practice of medicine. The skills she should bring to this job have been outlined, since they are to some extent different from those expected of the medical social worker engaged primarily in service to patients.

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The Presidents' Panel*

PRESIDENT JAMES L. MORRILL, PRESIDENT DEANE W. MALOTT,
AND CHANCELLOR FRANKLIN D. MURPHY

(JAMES B. CONANT, MODERATOR)

INTRODUCTION

At the turn of the century medical education in the U.S.A., as education, was in complete chaos. One of the main developments that remedied this situation was the recommendation of Dr. Abraham Flexner that the nation's medical schools be brought under the wing of the universities. While the degree of compliance with this recommendation has been far from complete (nine of our medical schools still have no university connection, five others are parts of systems of higher education but are independent units within these systems, and many others, while they are operated by universities, are far removed from their parent campuses), the result has been such that the standards of medical education have been raised immeasurably. But today, as we see the knowledge important to medicine cutting deeper and deeper into more and more disciplines, those who are responsible for the education of physicians are experiencing a growing sense of concern.

We are asking ourselves and are being asked many questions: In general, are our schools of medicine really parts of universities?—from the standpoint of the structure and quality of their educational programs? —from the standpoint of their student body and student body attitudes?—from the standpoint of their faculty and faculty attitudes?—from the standpoint of control of faculty, facilities and financing? How is a university defined, particularly if medical education is to be included within its constellation of responsibilities? What obligations presently stand in the way of medicine as a true university discipline?—as a true member of the university family? Should we continue the effort to keep education for medicine as an important part of the university family? If so, why?—what conditions should pertain? Is medical education an enterprise of such a high caliber that teaching medical centers should be conducted in their own right as specialized universities, broadly polarized around human biology and its related physiological, sociological, biological, and medical sciences? As educational and research enterprises are most or some of our medical schools so good that they are ahead of their parent universities? Or, where this attitude exists, are the medical schools as good as the holders of this attitude think they are?

It is time to take a fresh look at medical education as it should or should not be related to higher education in general. If this fresh look is ever to be taken, this should happen without loss of any more time, because we are already being engulfed and bypassed by change. And those who are attempting to gear medical education to meet its full responsibilities in the face of change need the assistance and backing of the top leadership of American higher education: those who represent the ultimate source of the authority behind most of our schools of medicine—the presidents and chancellors of our universities.

If our university and medical school administrators and educators are to be brought together, we need a national forum for the exchange, challenge and discussion of ideas —something that up to now has not been developed. The Association of American Medical Colleges is the logical agency for the provision of such a forum. As one of the first steps in developing this forum, the Associa-

* Conducted at the annual meeting of the Association of American Medical Colleges, October, 1958.

tion asked four of its university presidents and chancellors to participate in a panel on medical education as a university responsibility. This is an uninstructed panel. No topics were assigned and no manuscripts requested. Each participant speaks upon the basis of his own experience as he sees fit. It is hoped that the panel will play a role in encouraging medical educators to do the kind of rethinking and reprogramming that must lie ahead if medicine is to reach its full potential as far as its place in the future structure and function of our society is concerned.

WARD DARLEY, M.D.

Dr. James Conant.—Dr. Coggeshall, Ladies and Gentlemen: I must admit that I have rather a Rip Van Winkle feeling as I stand here as moderator of this panel discussion, or perhaps the feeling of an ex-prize fighter looking at something about to happen in a ring. Time was when I would have rejoiced at the opportunity of being able to tell this audience what I thought about some of the problems of medical education. But then, when I think back, I realize that I should have then been in a position of responsibility, and would have had to weigh my words very carefully, lest the dean or the faculty or all of them should disagree with something or misunderstand something that I have said.

Now I have and occupy a position of utter irresponsibility, as someone said in introducing me at a Cambridge meeting—I am rarely there. He said, "He has a position of utter irresponsibility, and it's gone to his head." (Laughter.)

I do remember that in the days when I had responsibility in regard to matters of medical education, including a medical school and allied hospitals, of which there are many, as you may know, in the City of Boston, occasionally I used to discuss administrative problems with university presidents who were heads of institutions that had no medical school and no hospital. And whenever they talked and complained of their difficulty, the story always came to my mind of the old New Englander who returned to a New England village, and he had been traveling very extensively, and he made his way around to the village store, around the stove where they were all seated as they did in those days, swapping yarns, and before long he was telling his former townsmen of what he had seen and where he had been. He went on at some length, until finally an old codger in the back of the room said, "Say, you think you've been everywhere and seen everything, don't you?" "Well," he said, "I've been around a good deal." "I want to ask you one question. Have you ever had delirium tremens?" "Well, no." "Well, then, you ain't been nowhere and you ain't seen nothing." (Laughter.)

We have as the three speakers who will start this panel discussion three university presidents who have been around a good deal and have seen a great deal, some of it in connection with the problems of medical education. Each will present his own point of view and his own background, and you know them and know their backgrounds are somewhat different.

The first speaker is President Morrill of the University of Minnesota, who can speak from his long experience as head of that institution, and also since he is the immediate past President of the American Association of Universities, as I am sure in that capacity he has heard much discussion among university presidents of some of the problems presented to university presidents by the existence of medical schools—their problems and their needs. We need say no more in introducing him. We are delighted he is here. I present to you President James L. Morrill of the University of Minnesota. (Applause.)

President James L. Morrill.—Mr. Chairman, my colleagues, ladies and gentlemen of the Association: I must confess that I take up my small part in this discussion with some nervousness. I don't know whether you doctors understand the awe in which the layman holds you. You see, you see us when we are undressed and are aware of our blemishes and shortcomings, physically. You see us also when we are sick, I think the

lowest psychosomatic level that one can reach, and when our weaknesses rather than our strengths, if any, are apparent.

Then, I am speaking today in the presence of the distinguished former dean of my own medical school, Dr. Harold S. Diehl, and his brilliant young successor, Dr. Todd, and their colleagues, and that makes me nervous in itself. I throw myself on the mercy of the court.

I doubt that any member of this panel, and not many, I should think, of this Association, especially in the light of the remarks just made by your distinguished former speaker here—I doubt that anyone will be disposed to argue that the medical school is not logically and usefully a part of the university, or that scientific or comprehensive medicine, whatever term you wish to use, is not really a university discipline.

The leading spokesmen of this Association have repeatedly and insistently so stated. Your indefatigable Secretary, Dr. Ward Darley, has said that, since medicine cuts across all areas of human knowledge and all aspects of the structure and function of society, we can see every reason why a medical school and the educational, research, and service areas of which it is the core, should be under the aegis of the university. Others in your literature have said the same thing—Dean Lippard, Dean Berry, Dr. Barry Wood, and many others.

And yet, ladies and gentlemen, there is an unease in the university-medical school relationship that is discernible and overt. It is evident, I think, perhaps in the fact that Dr. Coggeshall and his associates have seen fit to organize this panel and discussion today. It has been very evident in the discussions in the past 3–4 years, at least, of the Association of American Universities, that cluster of 40-some institutions in the country which are generally recognized as distinguished for graduate study and professional education, a group of institutions to which individually are attached some of the leading medical schools of the country.

And, curiously, it has been evident in a recent thing. There was held a month and a half ago in Canada the eighth quinquennial Congress of the Association of Universities of the British Commonwealth. And this subject came in for discussion there, as you will see in a moment.

I think it is discernible in such an observation as that of Dr. Darley, who is experienced both as a medical dean and as a university president, when he said that "In my opinion, no institution has worked out a completely satisfactory procedure for relating the administration of a large teaching medical center with the rest of the university."

And in Canada, at this conference of which I spoke, I thought it was evidenced by the fact that, in a conference of the vice-chancellors of the British Commonwealth universities with a group of invited American presidents, they should schedule the topic for a half-day of discussion, the "place of the medical school in the university, and the pressures it exerts." At Montreal, in the Congress itself, another half-day was scheduled on medical education and its place in the University.

At the former of these two conferences, that of the vice-chancellors and presidents, Dr. Wallace Sterling, of Stanford University, was one of the two major speakers, and Dr. G. E. Hall, President of the University of Western Ontario, was the other. At the other one, Lord Adrian, a medical man himself and Vice-Chancellor of the University of Cambridge in England, and Dr. F. G. Soper, Vice-Chancellor of the University of Otago in New Zealand, were the speakers.

I am just going to mention a few things here which my associates, I think, will develop at greater length. Dr. Sterling spoke of the difficulties of the separation in many universities of the medical school from the main university, the geographical separation, speaking of the fact that it is prejudicial to the development of a true community of teachers and scholars and that it reduces, if it does not preclude, the opportunity for a curricular arrangement which would enable the student to combine in some degree his medical and general education.

He spoke of the question of pay and outside service by members of the medical faculty, and he mentioned the continuous pressures from organized medicine—national, local, and regional—which handicap the university in its approach to medical education, he believed, in some respects.

Dr. Hall, of Western Ontario, asked, "Are medical schools becoming research institutes, supported by general university funds and grants-in-aid of research, rather than teaching entities with associated research activities?"

The British speakers both dealt, of course, with the rather peculiar problem of the teaching hospitals vis-à-vis medicine as a university discipline.

Now, in the Association of American Universities, this general problem of relationships of central administration with various branches and specialties in universities has come in for a good deal of discussion, with more of it in respect to medicine than in any other area. The presidents of the Association of American Universities have been talking for a long time about a joint meeting of presidents in that Association of those universities which have medical schools with the deans of medicine. Dr. C. W. DeKiewiet, of the University of Rochester, who is currently the president of that Association, conducted a very large correspondence with all of us. This correspondence developed what are the aspects of presidential and institutional unease and concern, in some degree.

They seem to fall in two categories: The administrative problem and the fiscal problem. And I am just going to mention a sentence or two from this correspondence which Dr. DeKiewiet kindly made available to me.

One president of a very large university and large medical school says, "It is difficult to bring the medical school into a close working relationship with the rest of the university. Medical groups seem to split away from the core of the university."

Another president, farther west than this one, said that "On the administrative side, two-thirds to three-fourths of our worrying time is taken up with medical and dental affairs. We have few, if any, yardsticks for determining local efficiency in medical education, and very little data on comparative costs. Interference from the medical profession and other outside sources is unparalleled in medicine as compared with our other professional schools, such as architecture, law, engineering, and so on."

Another president, rather east, said that "The burgeoning of professional organizations that have engendered a multiple certification for cardiology to radiology, and the formation of associations of medical schools, provide a centrifugal pull that is difficult to counter."

On the fiscal side, again, the off-campus location is emphasized as a problem, because it means in some cases a very expensive duplication of basic science teaching, curricula, and research facilities, and a defeating disadvantage toward the development of interdisciplinary cooperation, as one president put it.

Another remarks that "The tradition in some universities of independent financial fund-raising and responsibility by the medical school itself handicaps coordinated budget planning and operation."

Both at the federal and state levels, in the matter now of increasingly available public funds and in the area of individual and organizational private benefactors, which has arisen so greatly in the field of medicine, it is remarked that "Health and medicine have attained a high priority, requiring general university matching and maintenance resources, which demand the same degree of priority within the university, very often at the expense and sacrifice of other university needs."

And another president remarks that "The nature of medical education during the clinical years has tied the program to an enormously costly and distracting process, in the state universities especially, of owning and operating or at least of managing large institutions essentially for medical care."

Now, this catalog of complaints or concerns, which I have barely touched, does

betoken, I think, a presidential anxiety, and sometimes a sense of frustration which seems to be fairly widespread, among the presidential group of the AAU. And it reveals an apprehension, at any rate, of increasing institutional cleavage as between the medical enterprise and the rest of the university, and of an imbalance in over-all institutional development.

One gets the impression that this is not so much an intramural problem as one at the national level, calling for much closer communication and cooperation as between the presidents and their medical deans locally, and the national associations and the federal government involved.

Nearly all the AAU presidents who responded to this questionnaire or correspondence with Dr. DeKiewiet felt that there should be a meeting of presidents with medical deans, and some continuing liaison to canvass together these trends and tendencies and problems and the issues of federal legislation, and of foundation and organization policies. And this feeling, I think, you have in this Association evidently discerned and anticipated in this discussion.

Now, before I sit down, let me say that what I have been saying and reporting could be too easily misunderstood and misinterpreted, because most of these presidents are very proud of their medical schools. They believe that they do contribute, tremendously, to the service and prestige, to the public interest and support of the universities. And they believe, I am pretty sure, that medical science is a true university discipline, lending strength and integrity and productive scholarship to the whole university enterprise, and, surely, at our own University of Minnesota, we so believe, I so believe. I think our College of Medical Sciences there has been a kind of catalyst of scientific productivity and cooperation throughout the whole university. It is hip-deep in interdisciplinary research and teaching, and I think it is a source of legislative strength in our representations for state support of the whole university, and for public regard.

Let me say in conclusion that the problems that I have mentioned here are not indigenous to medicine alone. These same issues are now mushrooming in science and technology. They have been long-standing, I may say, as a president of a land-grant state university, in agricultural relationships with the federal government, with organized special groups and interests, and there are some elements of experience in the agricultural field that I think could be useful in coming to some understanding and solution of these problems in the field of medicine.

Almost by definition, the purpose of universities is unity in diversity, and I hope that the commendable initiative of this Association in arranging this kind of a panel won't die in this meeting, and that it can be capitalized and followed up in some definite and constructive way, some continuing liaison between the presidents of universities and their medical deans and faculty. (Applause.)

Dr. Conant.—Our second speaker can speak to us from a wide experience. He came into the position of head of the university after having had experience as administrative officer in the Graduate School of Business Administration. He has been the president of two universities with medical schools. He is now the head of a university whose medical school, I think, is as far removed in space from the President's office as any. I am sure that you are looking forward to what he can tell us about this problem, and I take great pleasure in introducing President Deane W. Malott of Cornell.

President Deane W. Malott.—I haven't yet figured out quite what the implications were of Dr. Conant's delirium tremens story—whether he thinks that the panel has already had them or will be suffering from that malady by tonight. I observe, however, for our own protection, that there are stage exits which we may use if necessary. I can only hope that Dr. Hinsey, Dr. du Vigneaud, and Dr. Deitrick, whom I have observed in the audience, will be speaking to me when our faculty meeting next takes place, because I propose to talk rather spe-

cifically about some of those concerns which Dr. Morrill outlined to you, rather than to spend time in what I would be very happy to do, expressing the pride which we all feel in our medical schools, which we as central administrators feel in the prestige and the dignity and the value of the training and the association which you bring to higher education, but rather to talk about some of these common problems which interest me all the more by virtue of the fact that I have been thinking about them in these last 3 or 4 days, realizing that we would have this opportunity of talking together.

So I hope you will realize that back of all that I have to say is the great pride in medical education, in its accomplishment, and in its service.

I would like, however, to talk about some of those thrusts which we think—we in administration, I in particular—may be pulling apart medical education from its parentage in the central universities of which they are part.

I see some dangers, for instance, in the development of these great medical centers, where more and more concern is being given to research for the sake of research, and not as a part of the teaching mechanism, with teaching only as the necessary concomitant in some instances, perhaps, for the enlistment of the necessary junior research workers.

There seems to be inevitably in these great organizations more and more concern with the ever more complicated techniques of patient care and services. There is greater involvement of the professorial time in the complex interrelations and the divergencies of policies brought about as these accretions of organizations attempt to work happily and profitably together.

Inevitably there is a proliferation of committees, and some day, I am sure, civilization is going to fall down in a great mass of paper work as committee members try to keep each other posted in our ever complicated society.

With all of this complication and interrelationship, no more students are being taken care of in the institution under my cognizance than when there was a much simpler structure.

Then there is the pressure which I know I find of concern in common with our medical faculty that in these centers there is an ever-increasing tendency to use the students in a variety of ways, serving the purposes of the total organization, because warm, strong bodies of reasonable maturity and great vigor and strength are useful in a great variety of ways having little, if anything, to do with the educational processes for which those warm bodies are present.

Then, too, I am concerned very frankly with the tendency, in which this meeting today is in marked contrast, for the professional societies and the associations of medical educators to make decisions of importance to the university in its fundamental policies without due consideration or conference with the administrators and the governing boards which must deal with those policies, and sometimes which tend to generalize themselves into over-all university pressures.

We need to have a close association together, in order that the policies which you find important for medical education do not transcend into impossible problems for the central administrators and the financial responsibilities which they must meet. Just such a matter, for instance, as federal aid to education, if applied only to medicine, has considerable concern to general administrative policies in higher education over-all.

I would think that a better approach, regardless of one's feeling about the importance of federal aid—and there is a divergence of opinion on that—at least, it should be approached at some point from the point of view of the imperative priorities within the complex university structure, rather than dealt with solely by the various segments of the university, each with its special problems.

I am somewhat disturbed also by the effect of medical education on some of the undergraduate programs, particularly because of the overweening importance which

seems to be fostered in the minds of students particularly to make good records in biology, and which tend therefore to channel their whole education program at the undergraduate level.

I am disturbed also—and I think this is a problem largely for those of us with geographically separated medical schools—by the intellectual isolation of medical faculties, which brings little impact to the main body of the faculty and which benefits little from faculty association in the other disciplines.

I have observed, as I have been reading some of the literature emanating from the Association of American Medical Colleges, the frequency of the assertion of what higher education in general brings to medical education, and what medical education brings to their universities. Now, that is a reasonable statement. I am sure we can all find some examples of it. But actually, when I try to catalog, I am brought up rather short with a feeling of inadequacy, from my point of view, at how little I as a central administrator am doing to help the medical school in my own university, and how little, really, is the impact of service from the medical school to the more complex structure. This is a problem which I think deserves more thought on the part of both you in medical education and us in the broader field of educational administration.

Then, finally, I would make a plea for greater concern on your part with instilling into the mature student body of our medical colleges a little more understanding of the social responsibilities which they face as individual human beings in our society. I know that you can say that is the task of the undergraduate college. It is, and we are not doing it too well. But out and beyond that is the fact that, in the universities today, the ablest of the young men and women are looking forward to professional careers and are in the professional disciplines, of which medicine is a part, and that if we are not careful, we in medical education and in general administration, to see to it that they understand the duties of citizenship as well as the duties of a physician in society, we are endangering the structure of our free way of life.

Our civilization will not go down from lack of doctors or engineers or students of jurisprudence. It will go down because you and I have somehow failed to take account of the fact that, in the American form of life, the citizenship responsibilities of the individual man of maturity and judgment, his understanding, his tolerance, his willingness to spend time and effort in making this democracy work, in the long run will have a vital effect on whether our medical policies or any other professional policies are sound and useful. (Applause.)

Dr. Conant.—The next speaker is one who literally requires no introduction to this audience. He has attended many of these meetings in his other capacity. Medical man, dean of a medical school, now head of a university. I must admit I am very curious to see how he is going to view these problems at one and the same time from at least three angles. I take pleasure in introducing Chancellor Franklin D. Murphy of the University of Kansas. (Applause.)

Chancellor Franklin D. Murphy.—Mr. Chairman, members of the panel, and ladies and gentlemen: I might say, Mr. Chairman, you are no more curious than I am. (Laughter.) I deal here with both sins of commission as well as omission, as we know now.

Before I start, though, I'd like to make an observation that springs out of my former relationship to this group on the one hand, and my relationships to the councils of organized medicine on the other. I have been to a lot of these meetings, and I have been to a lot of meetings of organized medicine, where the conflicts as well as the common interests of medicine and medical education have been discussed. And I must say that I have never heard a more reasoned and thoughtful and altogether optimistic statement than the one I heard just a while ago by Dr. Gundersen. I think those who know him are not surprised. To me, this bodes very well for the kinds of relationships that have to be built in if some of these enormously

complex problems are to be intelligently resolved.

I will start out, of course, with the usual disclaimer. I am very fond of my medical dean, too, and my medical faculty, and they are doing a splendid job, and I am, of course, very proud of our school of medicine and the credit that it reflects on the university and on the profession of which I was long an active part and which emotionally I shall always be a part, of course.

But, like my colleagues, I assume that we have come here neither to praise nor bury but to simply discuss with candor the inevitable frictions that enormously complex efforts such as medical education are bound to create.

I will try to address myself—for a garrulous Irishman this is always difficult—to two major points, and both of them have been mentioned previously. The first is, of course, the inherent and inevitable and necessary home of the medical school in the university. I think this is certainly not in dispute. This is a traditional relationship. It goes back to the very foundations of the universities of the Western world. It has become more necessary in modern times, by virtue of this great interdependence of human knowledge and scientific thought and activity.

And then, of course, it is my view that any professional school, medicine or otherwise, just simply must have the liberalizing force of living and thriving in the total academic community. It needs it for its own health, it needs it for its own full development and bloom.

But there is a very clear opposite side to this coin. Certainly, a member of a faculty of any division of a university is, above everything else, a member of the faculty of that university. Then he becomes, in secondary fashion, a member of the faculty of the professional division. And, finally, it seems to me, he recognizes himself as a member of a profession. Certainly, the physicists and the mathematicians are, in their way, members of just as proud professions as the physicians or the lawyers. But all, it seems to me, as long as they are involved primarily in the teaching process, have this primary responsibility and this primary understanding of coming under what might be called the discipline of the university, first and foremost.

The president of the university, I am sure you will admit, has the commensurate responsibility of recognizing all of these faculties, all of their responsibilities, and understanding that in this society today, it is a bit difficult to determine which of the faculties is making the major ultimate contribution to human happiness and survival.

I doubt there are many of us here today who would declare that the medical people are more important to the future of this nation than, let us say, our theoretical physicists or the mathematicians who are helping shape the physical world in which we live. One can make, if one wishes, a proprietary case, but if one has the obligation of examining the broad spectrum of human knowledge and effort, it is perfectly clear that it is not possible, really, to declare that one profession or one intellectual effort is significantly more important than any other.

Therefore, the president has to be concerned with keeping these forces in reasonable balance so that a university moves forward as a powerful total force in the intellectual life and development of the country. And those of you who understand far better than I experimental biology know full well that, by a variety of techniques, you can produce insects with enormously developed hearts as compared with the normally developed heart; you can produce an organism that can move in no direction and can exert no effective force and influence in its environment.

The university, I believe, is quite the same way. This is not to say that you talk down or that you move down to the lowest common denominator in your institution. It is that you try to build upward, of course, seeking always to maintain these institutions, however, in a balanced and reasonable fashion. In the long run, the public interest simply requires it.

I might say at this point that we find some of our most difficult problems here. Understandable, certainly. Problems in which we might ourselves, did we have different responsibilities, create some of the major errors of commission. But it does not make us especially happy to have the American Bar Association or, I think, more particularly, the comparable organization in law that this is in medicine, send us a ukase, as this group did, that no really accredited law school can be one that does not have its own separate librarian and library appropriation and a direct channel with these kinds of resources to the president. This is regarded as unwarranted and unnecessary interference in administrative matters, and serves nobody's purposes, including the law school ultimately.

I must say that in my experience with this Association, this kind of thing is not by any means as significant as it is with some others. It still, however, is an enormous temptation from time to time, I am sure.

The second observation I would make is that matter of numbers. I refer to this question of numbers. I think that it is probably clear, and I would be one who would agree, that the days ahead require a serious consideration of this for several reasons. In the first place, I believe that the body politic, public interest, requires more health personnel of different types. In the second place, I would remind you of something in which you think you at the moment, perhaps, don't have primary interest, but you will be much interested in it, and that is this much-discussed rising tide of students. It is true that within 10 or 15 years, the American university college population will double. There is some reason to believe, at least, that the pressures for admission into our schools of medicine will substantially increase, if not double.

In short, you have an apparent growing agreement that, on the one hand, the public interest requires more trained personnel in the health sciences, and, on the other hand, you have in sight the raw material from which this health personnel can be fashioned. The question is, what will those whose primary concern is medical education do about it, and how will they face up to this matter, because it has real significance not only for medical education but the university generally and the whole climate in which the university operates.

I am told that this is possible of resolution in one of two ways, or a combination of both: The production of more medical schools, the creation of new medical schools on the one hand, or the expansion of the activities of our present medical schools on the other.

I would submit that there is at least a possibility of a third approach to the problem, not exclusive, but to supplement, and that is a rather serious re-examination of the kinds of personnel needed in the health sciences in 1958, and whether or not the kind of pedagogic systems we have today are geared to the realities of the needs and the kinds of people.

Now, I must say that, in this whole question, there are certain enormous anachronisms that stand out. I know I oversimplify as I do it, in a combative, argumentative way, under the theory that this is designed to stimulate or perhaps even anger rather than serve as a soporific.

For example, I see around the country enormous medical centers, as have been described before. Great masses of brick, stone, and steel, still proliferating in their mass, with vast numbers of professionally trained people in increasing numbers inhabiting the offices, laboratories, and corridors of these growing centers. I see them, not only those of older vintage that are growing, but new ones coming along in enormous size and complexity. And I must say in all honesty, speaking now as one who once was a medical student and then, for a short time, a medical teacher, and then a medical dean, now perhaps having the advantage of backing off and looking at it without a special proprietary interest, I am a little reminded of the old story of laboring as an elephant and producing a mouse.

Because when I see these vast, multi-mil-

lion dollar complexes with this vast reservoir of personnel, when I understand that this enormous conglomeration of people and brick and stone and mortar can somehow only produce 72 or 81 potential doctors per year, my whole sense of economy, my whole sense of economy of operation, is somehow outraged.

Now, I understand what many of you are thinking. Well, we are producing lots of nurses, we are producing a lot of Ph.D. people, and certainly we are adding enormously to the sum total of human knowledge. I think about these questions; there is very little doubt, at least. The plain and simple fact is that, even with some understanding of the process, I am increasingly puzzled and bewildered.

Frankly, the danger of starting a lot of new medical schools at a time when we must honestly state that some presently in existence are weak does not appeal to me very much at all. The concept of doing nothing about the problem appeals to me not at all.

We know how the problem is created. It is created when an educational enterprise is exclusively concerned with the educational enterprise operating in a vacuum, with little concern for the total public interest, only a part of the public interest; a kind of semi-public-be-damned attitude. The public, of course, ultimately refuses to be damned. It fills the vacuum with a kind of inadequacy that then one must ultimately spend lots more effort in resolving or eliminating. This is a potentiality and possibility.

I would like to suggest that, before we just run off and plan fourteen more medical schools, fourteen more medical centers ultimately, or before we flatly state that it is impossible to increase this precious number from 81 to 87 without an expenditure of another million and a half dollars, we reexamine the whole pedagogy of medicine with candor and honesty and objectivity. There are a lot of clichés in this whole business, not exclusively in medicine but in other aspects of higher education, or so I believe. The old Mark Hopkins concept has in some areas, of course, been proved to be a fallacy. There are many thoughtful people who try to understand this matter of learning who declare, and I think prove, in certain fields, that the one-to-one ratio is actually not a sound ratio at all. It is very unsound, for a variety of reasons. I would like to suggest that, in a variety of esoteric and complex fields, under a variety of pressures, this hard thinking has been done, and done effectively. The mathematicians have now concluded that it is possible, in the twentieth century, to stop teaching exclusively Newtonian mathematics of the sixteenth century. There is now, I am sure many of you know, a vast and I think ultimately effective movement under foot to rework the whole concept of teaching twentieth-century mathematics to twentieth-century youngsters who are going to be dealing with twentieth-century phenomena.

It has abutted against the kind of thing you would predict: self-interest, professional self-interest, professional pride, and a good deal of intellectual lethargy always, of course. But in this case, it is moving forward, and I think that a significant breakthrough is being established, and out of it will come, I am sure, more effective teaching of mathematics to more youngsters, with a substantial economy of human effort. In the process, we shall overnight make available for the teaching profession a good many more mathematicians.

Well, Mr. Chairman, I think that these two thoughts are ones that are constantly and heavily on my mind. I freely admit to oversimplification. I freely admit to almost —well, I freely admit to being a devil's advocate, and, in part, I freely admit to arguing against some of my own emotional viewpoints. Thank you. (Applause.)

Dr. Conant.—I am sure you will want me to thank the members of the panel on your behalf. The meeting is now open for discussion. If you have questions, and I am sure you have, you can direct them to members of the panel, or, if you want to throw one at me, I will try to pass it on to one member of the panel. Who will start? It is always the

first question that is difficult. Then it goes on. Who will break the ice?

Dr. Ward Darley.—I think it is abundantly clear from what has been said by the members of this very brilliant panel that the schools of medicine of this country are presently in the dilemma of finding it necessary to face two ways at the same time. I think it is clear, from the address of President Gundersen, that the medical schools must face toward the profession. And I think it is equally apparent, from what our presidents have said, that the medical schools must face possibly more toward the universities than has been the case in the past. And I doubt very much if there are any medical educators who would argue either of these positions.

The question that I would like to pose to the panel has to do with the modus operandi in which this avenue of communication between our presidents and our deans can take place. I think the machinery for more adequate communication with the profession has probably already been set in motion, as President Gundersen pointed out in his address. And I think it is very important that the university presidents be a part of this effort that the medical schools will be making to face toward the profession in a more realistic way.

But I think it highly important at the same time that machinery be set up which, within the bounds of reason, will make it possible for better communication between the deans and the presidents. I think the situation here is complicated by the fact that there is no one organization of universities that embraces all of those institutions that have schools of medicine. The Association of American Universities is one group, but this organization does not embrace all of those institutions that have schools of medicine. The two associations of state universities, the land-grant group and the non-land-grant group, represent two other organizations.

It seems to me that the Association of American Medical Colleges is the only organization presently in existence that has the framework within which this communication can take place. Now, I know that presidents are extremely busy people and must ration their time with the greatest of care. Nonetheless, I think it imperative that, as medical education and university education face up to the tremendous responsibilities of the future, no time be lost in moving ahead on a common front. So if it isn't asking too much, I am sure that the deans here would appreciate any suggestions that the presidents here might make.

Dr. Conant.—If I understand the question correctly, you are not raising the question of the communication in a given university between the president and the dean, but rather the deans assembled, the collective voice of the deans, how they might be heard by the collective voice of the university presidents. Who will take that? Will you, President Morrill?

President Morrill.—Well, Dr. Conant and ladies and gentlemen: If this panel hadn't been organized, you would have discerned that the Association of American Universities, I feel very sure, would have moved toward something of the same kind. And it may be still in the minds of the AAU to do so. We meet within a couple of weeks, and I am sure that the report of the three convened here will be of very great interest to that Association.

It is true, as Dr. Darley has said, that our organization does not represent, by any means, all of the medical schools which comprise this Association.

I want to make two perfectly obvious suggestions. One is positive, one is somewhat negative. The negative one I will state first. A good deal of the anxiety of the presidents, as I have reported it to you in their comments, would be allayed or mitigated if the members of our faculties and our deans would anticipate and resist decisions by medical groups and by the Association here itself, if it has any disposition to do this kind of thing—resist the statement of policies or requirements for accreditation and that sort of thing, which invade the total autonomy of the universities.

I concede that it is very easy for the members of the medical profession in the colleges themselves to think first of all in professional terms. But, as Dr. Murphy has said, we like to think of them first of all as university people. They could do a good deal, I think, or more than they have done, if they would be conscious of this all-university responsibility, this over-all responsibility, and resist actions within their own professions which invade university autonomy and prejudice policies in this regard.

Now, the constructive suggestion is perfectly obvious, Dr. Darley. It would be possible for this Association to set up, whatever your machinery is, some kind of joint commission, a representative one, I suppose, as between the best of your people and some of the best of those in the presidencies of the universities that have medical schools. The only other organization that I can think of which might be competent to do something of the kind would be the American Council of Education, which is the most broadly representative of any of the over-all educational organizations that I know, and to which all of our institutions belong.

And there is a precedent there, in the American Council, for doing that kind of thing. They have done it in the field of technology, for example, and some others. That is the other suggestion which would be a matter for your own group to think of.

I do believe that you would receive an interested and a grateful response on the part of the presidents of the institutions if someone, one or the other organization, would take that step.

President Malott.—I would like to respond briefly to Dr. Darley's question also. One of the reasons that there is no association which speaks for all of higher education is that I think we who are presidents of the institutions do not wish to be spoken for by a single association or organization, that this tends to channelize, to stereotype American education in ways which in the long run would be undesirable.

We must have experimentation, we must have different types of educational institutions, and I think it would be equally unfortunate if by the strength of the Association of American Medical Colleges and the pressures they were to bring to bear, there was a channeling and a lack of experimentation on the part of the individual members in the whole educational process.

Dr. Conant.—Who will have the next question?

President Coggeshall.—I would like to ask the university presidents, in view of the fact that we have grown in stature, from the standpoint of research, measured dollarwise from $2,000,000,000 just a few years ago to in excess of $5,000,000,000 currently, what do they see is the problem created by the enormous research expenditures, in which our country is now spending in excess of $5,000,000,000—recognizing, of course, that much of this is research and development, a great deal of it outside the university, but much of it in the university. Are we indeed becoming too research-oriented or conscious in the university, to the detriment of the total university responsibility, particularly in teaching?

And number two, are there any disparities between the physical sciences and the biological sciences with which we are confronted?

Dr. Conant.—Will you take that, Dr. Murphy?

Chancellor Murphy.—I will try. Well, I think the research problem can be divided perhaps into three categories, one of which is especially related to the medical research one.

I think that most of us who have a feeling of responsibility for higher education generally, and I think I sense the view of my colleagues as I remember their comments in meetings, are chronically distressed at a kind of current disease, if you could call it that, in this regard, more noticeable in some disciplines than others, but very infectious, a disease that seems to move from one discipline to another very rapidly, namely, a preoccupation with research per se, very often to the disadvantage of the teaching function.

There is one discipline, for example, in the college that I was talking about, in the physical sciences, where today, upon the employment of a man in that discipline, the first question he asks is something like "What will my teaching load be?" And if his teaching load is beyond 6 or 8 hours, this is an unsatisfactory situation.

Well now, the very fact that this question is asked, and the way it is asked, suggests that the teaching load, that the contact with the student, somehow represents a sort of chore that is required to pin on the badge of respectability to belong to the university community. When research reaches, in the university environment, this kind of perverted prestige, if you want to call it that, because it must have some prestige as it has always had traditionally, then I am quite certain that this is doing violence to the fundamental *raison d'être* of the university itself. And I think we have to admit in all candor, if we examine our own institutions, that this is happening very often to a higher degree than one should wish to have happen.

Now, the curious thing about these vast sums of money in medical research is that I think there is a little schizophrenia about this business. Somehow, direct federal aid for medical education is still the subject of enormous controversy, and in the minds of many, unrespectable. But it is very clear that, from a practical point of view, it is relatively easy to get money for medical research, because those who voted are worried a little bit about their cardiac status anyway. And I am quite sure that this money is sought for, gotten, and distributed with the very clear understanding, to a lesser or greater degree, that it is, in effect, indirect aid to education.

The irony of this whole business to me, over and above the hypocrisy involved, is that it creates this kind of accretions on the medical school in the name of research, and so aids and abets the development of the institution as a research institution rather than a pedagogically oriented institution, and therefore becomes a kind of self-defeating thing.

One must admit, I think, the validity of this. Some of you will disagree with me, but I would like to take those who would disagree out over at the bar, and if we stayed there long enough, I think we would come to agreement. (Laughter.)

The third matter in this whole business of research is, of course, that the ease of funds for medical research, the fact that, in succeeding congresses, the Department of Health, Education, and Welfare has had imposed upon it more money than even the Bureau of the Budget or the Department itself asked for, suggests that if this keeps going, if federal aid be voted on the basis of the emotion in the body politic and concern about one's own physical status and things of this sort, by the device of the very large sums of money available through the federal government, the very imbalance, enormous imbalance in the university community, which one seeks to avoid for the health of the university community, may indeed be substantially expanded.

I somehow feel, from the university point of view, the ultimate health of American higher education and its function as a total, positive force in the community, if we are going to talk about federal aid, we'd better talk about it on a somewhat broader front, rather than create the insect with enormous hind legs and no front legs, which ultimately can't move forward in the culture at all.

Dr. Conant.—Who will have the next?

Dr. John B. Youmans.—I would like to ask the distinguished gentlemen on this panel the following question: If they will agree that there will be, in the next 10 or 15 or 20 years, a very considerable need for a greater number of medical personnel, particularly the doctors, because they are the hardest to produce. And if they agree, as they say, that a medical school is an integral part of the university, what do they think is their responsibility for securing the added facilities for medical schools and medical education? Do they think that the medical faculties and the deans of the medical schools individually and collectively are the only ones who are to go out and seek financing, seek aid to get buildings, to provide faculties? I would like to hear what they

think their responsibilities are. (Applause.)

Dr. Conant.—There are times when I am glad I am an ex-president. (Laughter.) Will you take that in order as you are seated there? We will start with President Morrill first, I think, and then end up with Chancellor Murphy.

President Morrill.—Of course, you all understand that presidents merely do what they are told to do, and I am not statistically informed as to what the needs of health science personnel will be. Most everybody concedes that more of that personnel will be needed.

I am very sure that the presidents of the universities will feel a very great responsibility in this matter, to assist in raising funds. I would judge that they have already felt that responsibility, in most cases, and have done what they could to assist.

Universities are differently organized, and in some of them the professional schools stand on their own bottom and undertake their own fund-raising. That isn't true of the state universities as a whole, I believe. There, I think, any responsibility for the raising of funds for medical education and research is pretty much shared by the medical people and the central university.

I think that I am missing the point, however, in Dr. Youman's question, a point that I don't quite discern. I do think this: I have a great sympathy for Dr. Murphy's comment on changed patterns of teaching. The other day, there came to me a memorandum and, of course, a representative with it, asking for a very large expansion of a particular type of science laboratory on the campus of the University of Minnesota. This wasn't a medical science. It was, however, a science very closely allied and a feeder for the medical school. And the remark was made, "Although a good deal of money has been spent in that area lately and we propose to spend a good deal more, if something isn't done, we are going to be driven to table-top demonstrations in this science."

Well, I may say that the most interesting and significant enterprise for the improvement of instruction in which I ever had any participation at another university was in the field of the biological sciences—I mean botany and zoology, those sciences—in which the method of long laboratory work had been the practice and taken for granted. That was shaken up with the full acquiescence of the biological faculties, and they went to very much more table-top demonstration, with an immediate lowering of costs, better utilization of space, and after a period of 4 years of testing, the learning was found to be considerably improved. I fancy, Dr. Murphy, that there are opportunities for some approach of the same kind in medical instruction.

President Malott.—I wouldn't want to leave the questioner in the position of thinking it was all black or white. I think all of us are willing, we as presidents, to help finance our medical colleges. Cornell has a total operating budget of $66 to $67 million a year. That is quite a lot of money to obtain year after year. But I submit to you that there is not enough money in the economy, nor will it become available to education, unless we can demonstrate that we are being as efficient and effective managers and users of these funds as we know how to be. That will require from medical educators, the faculties of the colleges of medicine, every effort toward assuring not only the administration and the trustees of the university, but the constituency of higher education in America, that the need cannot be further met by the economies of management for which you and we are the partners.

Chancellor Murphy.—Well, Mr. Chairman, knowing the man who put the question to us a little bit, I didn't have to look too hard to see the bit of tongue that he had in his cheek, and this is a well known characteristic of that distinguished gentleman.

I would want him to know that there are many of us who have worked a bit at this matter of raising funds for medical as well as other parts of our educational effort. This can be attested to by the gallons of mashed potatoes that one has to sit through from time to time over a period of a year in dealing with the large numbers of people who have to be brought to agreement before you get these funds.

And there has been representation in terms of private support, I am sure, by presidents. I don't think it is necessary for me to remind this group that the national fund-raising enterprise for medical education, drawing funds from industry as well as ultimately from the profession, had its genesis in the concern, at least partly, of the group of distinguished university presidents in this matter of raising funds for medical education, and I believe that one of those gentlemen is the chairman of this panel today. So we spend a little time in the money-seeking business, if that comes as a surprise to you.

But I do think that we can't underestimate the efficiency of the operation, because you can find funds lots of places. You find money that you didn't know you had, whether that is convertible into manpower that you were not using or space that you were not using. I have heard a good deal, ever since I have been in the business, of the financial plight of medical education. And I am sure that the day will never come, knowing my colleagues who are sitting in front of me, when we stop hearing about that, and that is probably the way it ought to be.

But the fact is, as I go around the country and examine the availability of laboratories, classrooms, personnel, and indeed the salary scales for the majority of these personnel, and when I compare these salary scales and facilities against other disciplines within a university, my sense of urgency in this regard is somewhat less than it was in the beginning.

I wonder if maybe the problem of examining pedagogic techniques and the efficiency of the teaching mechanism in medicine—the lack of this—isn't because we haven't faced up ultimately to what really creates new ideas, and that is necessity. Because it is the mother of invention. I think part of the extraordinary changes in the field of mathematics today are coming partly out of a real, urgent necessity—partly, of course, out of public interest.

I would suggest, then, John, that this is a kind of bilateral enterprise, and let us look around for the fresh money and let you look rather vigorously for the money that you have in the sock that you may not be spending.

Dr. Thomas H. Hunter.—Dr. Conant, I would like to ask you one very brief question. I would like to know what the measurement of efficiency in scholarship is. We are supposed to be developing medical scholars, I believe, and I think that too much focus on certain aspects of efficiency can scuttle the whole ship.

Chancellor Murphy.—I would be glad to respond to that, because Dr. Hunter and I, I guess, aren't in agreement as to what we were producing. I was under the impression that medical schools were to produce physicians, their primary function was to produce physicians who were to take care of the health needs and the requirements of the body politic, just as the law school is to produce lawyers and the engineering school is to produce engineers.

We hope, of course, that we produce in every person the curiosity which I am sure is the hallmark of any scholar, however you define this term.

I think, if I may use the expression—and, again, I understand we are not here to win friends and influence people—I think we have to move some distance away from the cliché and start dealing with some of the measurable phenomena, because I cannot believe that education, at some point, does not have elements in it that are amenable to measurement. Perhaps my colleagues wish to comment.

Dr. Conant.—What time are we supposed to close? Well, it is 4 o'clock, so I think it is my duty now to call this panel completed, and to once again, on your behalf, thank the three college presidents who have spoken here, and thank you for your participation.

President Coggeshall.—I am sure your responses to the comments of our panelists today are an indication of your welcome. I am sure that it is quite apparent to you that this particular group was not brought here to heap praises upon the medical schools. I am sure we have all profited here and will profit at home from the comments that they have made. Thank you very much.

MEDICAL EDUCATION FORUM

Editorials

DRUGS AND MEDICAL SCHOOLS

Every individual concerned with the problems of medical education will welcome the announcement of a meeting between representatives of the A.A.M.C. and the pharmaceutical manufacturing industry. We hope that a major topic on the agenda will be the need to increase the financial support of medical education by the industry. This support should be in the form of fluid money for the support of the total program.

Although most deans are not skilled in the interpretation of Dow-Jones charts and only a few subscribe to the *Wall Street Journal*, all signs suggest that pharmaceutical business is booming. The medical schools are responsible to a considerable degree for the boom. The potent new therapeutic agents would not be available or effective without potent medical schools. Many of the men who lead research programs in the pharmaceutical industry received their training in the medical schools. The use of many of the new pharmaceuticals is based upon research carried on in the medical schools.

In some instances, the pharmaceutical manufacturers have not been unmindful of the need to support specific areas of medical education. However, taken as a whole, has their contribution to medical education approached the scientific contributions which the industry has collected from medical schools? The answer is "No."

Frankly, we would like to see an abolition of the expanding "give-away" programs which, to many critical eyes, seem a salve to the manufacturers' conscience and another gimmick for the bottom drawer of the student or faculty desk. Each week brings another request for a medical student directory so that another leather-bound index can be distributed. These activities produce a cynical reaction rather than promote good relations. We would prefer the money to the small pieces of mink.

But these are only minor irritants! The indications are that the pharmaceutical industry could, and indeed should, make a far greater financial contribution to the support of medical education. This could be accomplished through the National Fund for Medical Education. It would be a master stroke for good professional and public relations for the pharmaceutical manufacturers.

JOHN Z. BOWERS, M.D.

CURRICULAR COMMENTARIES

WINDSOR CUTTING
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The traditional curriculum is being worked over, squeezed, expanded, and otherwise assaulted in a fine array of enthusiastic revolutions. Inevitably the result is increased attention and interest and perhaps often improved teaching. That these come, regardless of the exact character of the reform, bespeaks the power of the enthusiasm. To balance these efforts, it is high time to entertain a little enthusiasm for the good points of the traditional as well.

As in other scientific investigations, the investigator of curricula looks for relevant evidence accumulated from the past experience of others. If he does not find it he tries to design an experiment to give an answer to his curricular problem. This means that all sorts of trials are in progress, and properly so, although parenthetically one cannot help at times being glad that some are being tried in schools other than one's own. But when a design cannot be devised to give a clear answer (and certainly the results of new curricula are not easy to assess) caution is advisable in the wide adoption of any experimental method. Rather, continuity with inherited experience should be cherished and not abandoned unless, first, one is prepared to run as perfect an experiment as possible or, secondly, the evidence from others is highly persuasive. With these thoughts let us examine the value of some of the changes currently in the air.

1. *The value of the lecture.*—A century ago most formal medical instruction was by lecture; during the last 50 years the lecture has all but disappeared in the clinical years—although at the same time it has entered from another front as pre-clinical disciplines have been added to the curriculum. There is certainly a strong consensus that the clinical years have been almost infinitely improved by clerkships, ward rounds, small groups in teaching, and laboratory experience. The more intimate contact with the faculty, particularly in schools where the "professor" himself is not only accessible, but unavoidable, has added an inspirational quality to the teaching that is often lacking in lectures. And certainly this inspiration sometimes equals in importance the facts exchanged. With the near abandonment of the lecture a price has been paid, however. This price is systematic presentation. The student needs orientation, a framework on which to hang the coming details of a lifetime of observation and study; and, for this, an orderly and comprehensive vision is invaluable. The plea may therefore be made for clinical courses in which orderliness is a bit more discernible than in catch-as-catch-can ward rounds. There would even seem to be a place for some actual lectures as well, in which the student could sit comfortably and take notes on well and systematically prepared clinical explanations.

2. *The value of the tutor.*—The medical education of our forefathers was a compote of tutorial instruction, acquired while riding in the buggy with a doctor on his calls, and of impersonal listening to what must often have been the rather sterile lectures of advertised "courses." With modern ward rounds the advantages of the personal, and as mentioned before the inspirational, qualities of the tutor are found. This relationship is often augmented in another and even closer way. While in ward rounds or in laboratory conference groups the relationship is still not one to one, it may become this personal for a student who works for a summer, or at odd hours, in a teacher's laboratory. The full tutorial ideal may then be present and many a lifelong friendship established. For this mild swing toward

greater personal contact the author has only admiration. Probably no faculty member is likely to devote much more time to such students than he should, in consonance with his other teaching and research opportunities, and the pendulum could swing even somewhat further with advantage. Such an experience also may waken a wholly unrecognized love of investigation in a student or, conversely, quiet an uncertainty as to whether he should "go into research."

3. *The value of integrated teaching.*—As has been so aptly said, every good teacher wants to see the facts integrated in the student's mind. The disagreement arises over how much of this can or should be done outside the poor lad's head. In the traditional curriculum there was often no great effort at external integration—for example, no effort to make the study of the gross appearance of the kidney coincide with its microscopic appearance or with the story of its function, let alone to add any inkling of how it might look or act in disease. There is hardly an old student who cannot remember wondering at some time what some certain cells were for or, conversely, what kind of cells did some special job. However, given a little time, and especially when the corresponding courses were in step, he would make the association. Sometimes these associations, springing out like a revelation, were about as exhilarating as an experience could be, and stayed with a fastness and pleasure unequaled by more easily won facts.

Now it is fashionable (and the following is wilfully exaggerated) to strive for better prepared pellets for the students. Let the biochemist and the physiologist appear together, as in that abysmally popular invention of medical meetings, the panel discussion. Together they can present a sort of asexual party line for the student to sop up most painlessly. The different approaches of the two disciplines can be worked into one synthetic thread. It would not be within the rules to go back too much into the legends of how the given subject developed in physiology, or who the heroes of that discipline were, because these would waste the biochemist's time and are not needed anyhow to give a "clear, modern statement of the problem."

Of course it is not nearly this bad, but nevertheless a strong plea is in order. This is that we not throw over physiology or biochemistry, or medicine or surgery, as disciplines worth while in their own rights for an efficient, soul-less, easy(?)-to-learn, combination pap. Each discipline as it has grown has developed it own concepts, methods, discoveries, and great men. Its teachers have absorbed an honorable intimacy with this history; this love and familiarity contribute greatly to fascinating teaching.

4. *The value of research.*—The modern university's function, as was the ancient's, is to preserve knowledge, impart it, and produce it newly. Libraries are particularly involved in the first, the faculty particularly with the latter two. Sometimes, in the current attachment to teaching and curricula, research is forgotten or disparaged. Also, the natural history of faculties is that, although new members are chosen with a careful eye to research promise, a good many later falter in this. Often, however, these latter become good teachers, and in most faculties a sort of over-all balance and strength evolve, a half teaching–half research balance, but not with each faculty member divided exactly down the middle. If emphasis on research is forgotten in the selection of faculty and if the curriculum puts a premium on teaching, it is possible that a real imbalance toward a college or trade level may develop. It should be remembered that universities traditionally differ from colleges in having graduate schools and in fostering research. The plea here is to be sure that our medical schools become increasingly university schools.

5. *The value of acceleration.*—"The engineers are getting all the bright young men because their course is shorter" (and they can make more money sooner). "Nowadays it takes half one's life just to get ready to practice medicine." So the arguments go, and thus goes the answer: "Let us prune and consolidate and nip a good bit off vacations. With such accelerated programs a bright, precocious boy can be out helping mankind while his contemporary is still an intern." This may all be right and true, but it also may be a leap not fully calculated. In the first place, some not-so-bright youths turn out to be just not so flashy and, in the long run, may show greater depth and originality. Others seem to take a bit longer to mature and are not always ready as the appropriate steps come along—yet also later turn out to have creditable resources.

The real question, however, is: What's the hurry? Are not the years of one's formal education a part of life? And should not this part be enjoyed fully and joyously? The genius, rushed through his childhood and youth, may turn out well, but many of us recognize acquaintances who have been over this course without ever getting time to grow up into human beings. It is a little like force-feeding hens for more eggs, but with what is left not being much good for eating. The logical plea on this is that at least some schools may resist this frenetic attitude.

6. *The value of comprehensive medicine.*—"The patient is a whole man, not a sick 'liver case.' " If recognition of this truth is obscure in some schools, and a new curriculum will change it, godspeed change! The concern here is that this is a dummy; actually, in schools of the author's acquaintance, at least, the student already has the patient's feelings, his family, his job, and his future very much in mind. Unwholesome overemphasis on the "whole" picture conceivably could crowd out the absolutely vital factual knowledge which separates good from poor physicians. It is worth little to have convinced a patient of one's sympathy and omnipotence if he is to be betrayed by a lack of scientific knowledge. If the blandishments for a new drug lead to its use, when attention in a pharmacology course could have taught the danger of a predecessor drug and the logical danger of this new one, then the curriculum was comprehensively unbalanced. In sum, the science of medicine must not be shorted, for it alone is capable of directing the etiological and conclusive cure of the patient.

7. *The value of early clinical experience—and late preclinical.*—"Let's get the students to the patients earlier and lengthen this most important part of the curriculum" (meaning: Let's not waste so much time on preclinical stuff.) This is a minor song but a recurring one, especially from alumni. It is now popular to assign a pregnant woman or a family to a beginning student. This is long before he has any idea of specific disease, but is aimed to provide a follow-up of some duration and thus an idea of what happens to people generally. This may have some value to those students who need to have their interest whetted during what to them is long preclinical drudgery. To others, being a pretend-doctor must be a frustrating experience. It would seem that a very little "premature" clinical experience would go a long way and that any more would be wasteful. As an encroachment on precious preclinical time, which unlike the clinical years is not on constant review in later practice, the movement cannot help but cause worry. If the time is carved out of anatomy, and it usually is, this oldest of medical departments suffers one more buffet. Newer disciplines have the right to demand time, but anatomy as the whipping boy demands needs more affection than it usually gets.

In exchange for the early clinical exposure a late preclinical review would be the better

bargain. Seniors often wish they could go back and take some more pharmacology, for example. Now they see more point to it, as well as wishing to be brought up to date. Bearing them out in this example is the fact that pharmacological detail 2 years old is pretty much obsolete, although framework and concepts remain true.

8. *The value of broad education.*—Traditionally students pass a sort of space barrier when they enter medical school. It is a new world, and reentry into the previous atmosphere comes only with philosophical old age. Yet admissions committees look for broadly trained and broadly interested candidates who may bring some of their breadth into medicine. If a student has enjoyed mathematics, let us say, and has been good at it, they like to think that he is a person who might add something unusual to research or interpretation, and bring some honor to the old school. Traditionally there is not much chance of getting advanced training in mathematics (or sociology, or geology, or even Sanskrit) while in medical school. Even when there is incentive there is little example or available mechanism. Provisions in some of the new curricula which foster simultaneous continuation of extramedical studies, rather than a barrier against them, are among the most hopeful of the new reforms. Such programs are difficult; scheduling may be awkward, and the student's preoccupation with medical courses may disturb concentrated thinking in other subjects; whether they will work at all awaits further trial. Nevertheless, the idea of helping the student to avoid a narrowing life is of serious importance.

Vital to breadth are three kinds of protected time, that is, time protected from prescribed courses. The first is protected time for elective courses and research projects. The second is the protected time for non-medical courses of the preceding paragraph. It may be required that time be spent in these two ways, but the internal choice of subject matter is the student's. The third is true free time which, in another natural characteristic of the curriculum, runs about a 25-year cycle. Starting with its provisions by a courageous curriculum committee, free time evolves through electives soon deemed necessities, and ends with courses provided for every hour. Baseball and love must be provided for.

CONCLUSION

The traditional curriculum is being decried in many quarters as one in which change is highly overdue. While in part this is true, much good exists in the old. Also, the traditional itself is far from static. The pleas of experience are the conflicting ones of wanting continuous experiment, yet wishing to hold tenaciously to the good in past experience.

Report

The new educational program at the Johns Hopkins University Medical School has aroused widespread interest. Recently, the following statement, which sets forth the details of the program, was released. Dean Thomas Turner very graciously gave permission for this timely material to be published in the *Journal of Medical Education*.

Editor

THE REVISED PROGRAM OF MEDICAL EDUCATION IN THE JOHNS HOPKINS UNIVERSITY

Johns Hopkins was the first university in the United States to place a primary emphasis upon graduate study. In the more than 65 years which have elapsed since the founding of its School of Medicine, important evolutionary changes have taken place in American medicine: many fine medical schools have been established, remarkable progress has been made in scientific research, and great advances haev occurred in medical practice.

At the same time, some undesirable features have emerged in the American system of educating physicians. First, the number of years required for students of medicine to reach a productive stage in practice or research has gradually increased to the point where it is beginning to discourage able candidates from entering the field of medicine. Secondly, the need to concentrate on science, necessitated by the rapid advance of knowledge, has made it increasingly difficult for prospective physicians to acquire an adequate understanding of the cultural and historical forces which have molded modern civilization—an understanding which is essential for the most productive service to society. And thirdly, for a variety of reasons, a relative decrease in faculty strength has occurred in the basic science departments of American medical schools, particularly during the last two decades.

The revised program of medical education of the Johns Hopkins University, which will go into effect in the fall of 1959, is designed to counteract, as far as possible, all three of these disturbing trends. It will introduce into the combined college-medical school curriculum far greater flexibility than now exists—a flexibility designed to meet the needs of candidates with varying backgrounds, aptitudes, and ultimate objectives. It will afford an opportunity for properly qualified students to save 1, or even 2, years between the sophomore year of college and the completion of medical school. (The principle underlying this change is precisely the same as that of collegiate "advanced standing" programs which permit properly qualified students to enter college after having completed only 3 years of high school.) It will consolidate the teaching of premedical courses in the natural sciences and thus avoid the unnecessary duplication of effort which now prolongs the combined college medical school curriculum. It will merge the teaching of liberal arts and medical science in the earliest years of the curriculum, thereby tending to break the barrier which has traditionally existed between colleges and schools of medicine. It will create better opportunities for students interested in teaching and research to obtain advanced

training in the basic medical sciences during the formative years of medical school. And, by providing generous blocks of free time in every year, it will give all students an ample opportunity to pursue independent study and research, and thus acquire a thorough mastery of knowledge through the exciting process of discovery.

The revised curriculum.—Instead of the usual 4 academic years of 32-36 weeks each, the new curriculum will comprise five 40-week years, designated respectively as Years I, II, III, IV, and V (to distinguish them from the usual Years 1, 2, 3, and 4). Only college graduates will be admitted directly to Year II, the conventional first year of medical school. Properly qualified students who have completed the sophomore or junior year of college will be eligible to enter Year I.

The students of Year I will reside in the Medical School but will be officially registered in a joint program of study under the Faculties of Philosophy (at the University's Homewood campus) and Medicine. During the first year, they will enroll in courses given both at Homewood and in the Medical School; transportation between the two campuses will be provided. Upon completion of Year I, they will take the courses of Year II (which are usually offered in the first year of medical school), but they will not be finally admitted as candidates for the M.D. degree until they have fulfilled the requirements for the B.A. degree. The B.A. will be granted by the Faculty of Philosophy at the end of Year II.

Beginning with Year III of the curriculum, there will be one elective quarter in each year, and optional summer sessions of 8 weeks each between Years III and IV and Years IV and V. These elective periods will permit the student great flexibility in arranging his required work. Some students will be permitted to accelerate their required work in the clinical departments by electing required courses during the free quarters of Years III and IV and during the intervening summer. Their schedule will differ from the more usual pattern.

Candidates who successfully complete the accelerated clinical program will have taken all the required courses of the curriculum by the end of Year IV. Accordingly, during Year V, they will be eligible to accept internship or fellowship appointments. At the end of 1 year of such appointments, they will qualify for the M.D. degree.

Each academic year, which will include a Christmas holiday of 2 weeks, will begin in early September and end late in June. There will be a summer vacation of 10 weeks between each academic year. During 8 weeks of the vacation period students may engage in elective studies or research, if they so desire.

Entrance Requirements.—Candidates for entrance to Year I must fulfill the following prerequisites:

Mathematics: High school or college courses in algebra, trigonometry, and analytical geometry.

Chemistry: One year of college chemistry, including laboratory exercises.

Biology: One year of college biology, including laboratory exercises.

Foreign Languages: Two years of high school and 1 year of college work, or 2 years of college work, in one modern foreign language (French, German, Italian, Russian, or Spanish). A demonstrated reading knowledge of one of these languages may be substituted for the foregoing formal course requirements.

Humanities and the Social Sciences: Since the first two years of the medical curriculum represent a "major" in human biology, the science requirements for entrance to Year I have been kept to a minimum, in order that the student may obtain a good grounding in

the humanities. During the first 2 years of college the student should devote at least half his time to courses in the humanities and the social sciences, with particular attention to literature and history.

Applicants who have completed 3 years of college must meet these same requirements. Such students, however, will not be required to repeat work in Year I which they may already have had in college; instead, they will be allowed to utilize this time for more advanced study as approved by the faculties.

Candidates for entrance directly to Year II must fulfill the following requirements:

Degree: The B.A. degree or its equivalent.

Mathematics: In addition to the requirements for entrance to Year I, it is strongly recommended that students acquire a knowledge of the elements of differential calculus.

Chemistry: Two years of college chemistry with laboratory exercises, including organic chemistry and at least one semester of quantitative analysis or physical chemistry.

Biology: One year of college biology, including laboratory exercises. Since courses in bacteriology, histology, parasitology, and human or mammalian physiology are included in the medical curriculum, applicants who are biology majors are urged to take their further work in biology in genetics, embryology, or comparative biology.

Physics: One year of college physics, including laboratory exercises.

Humanities and the Social Sciences: Students entering Year II of the medical curriculum are expected to have a good grounding in the humanities and the social sciences, especially in literature and history.

Foreign Languages: Same requirement as for Year I.

Candidates for entrance with advanced standing may apply for openings which may occur in classes of Year III or IV. Such applicants must be exceptionally qualified students in acceptable medical school. They must furnish evidence that (1) they hold a B.A. degree or its equivalent and meet the other requirements for admission to Year II stated above; (2) they have satisfactorily completed medical courses equivalent in kind and amount to those given in this School in the year or years preceding that to which admission is desired; and (3) they are prepared at the beginning of the session to pass examinations in all subjects already pursued by the class to which admission is sought. Admission to Year V will be considered only in the case of exceptional applicants who have given evidence of unusual ability in their original schools.

All applicants will be expected to have taken the Medical College Admission Test. (For information, write the Educational Testing Service, 20 Nassau Street, Princeton, N.J.)

Applicants must be or have previously been in attendance at an institution on the list entitled "Accredited Institutions of Higher Education," authorized and published by the National Committee of Regional Accrediting Agencies of the United States, Amherst College, Amherst, Mass.

All requirements for admission must have been completed prior to the date on which the student initiates his medical studies at Johns Hopkins.

Schedule of courses.—Year I is devoted to continued study of the liberal arts and of the natural sciences needed for medicine. Of the five major courses required during the year, three are in the humanities, one is in chemistry, and one in physics. Elective or free time

comprises approximately 38 per cent of the total schedule for the year, thus providing ample time for study and collateral reading.

In Year II the program of study deals with the structure and function of the normal human body and mind. There are required courses in anatomy (including cellular biology, embryology, and neuro-anatomy), physiological chemistry, human physiology, genetics, biomathematics, the social sciences and medical psychology, and the history and philosophy of science. Approximately 27 per cent of the total curriculum hours are allotted to elective or free time.

In Year III the student is concerned with changes in structure and function induced by disease, and with the action of drugs, antibiotics, and vaccines. In the second and third quarters of the year he is introduced to the techniques of physical diagnosis, to the elements of clinical medicine, and to the philosophy and approaches of public health. The fourth quarter of the year is entirely elective, during which the student may engage in research under the supervision of a member of the faculty or may take elective courses of which there is a rich assortment. The manner in which this quarter may be used in the accelerated course of instruction has already been described.

Year IV is devoted to the study of health and disease in the various clinical departments of the Medical School and Hospital. The students come to grips with practical clinical problems in the departments of medicine, surgery, pediatrics, psychiatry, obstetrics, gynecology, radiology, and ophthalmology, and with problems of public health in the School of Hygiene. There is a large degree of correlative study among the various departments. Three quarters of the academic year are devoted to required work in the foregoing disciplines, while one quarter is available for elective enterprises. Some of the required work of this year may be taken in a regular summer session between Years III and IV.

In Year V the student serves for three quarters as a student-apprentice on the clinical wards of the Johns Hopkins Hospital. One quarter is available for elective study. Some of the required work of this year also may be taken in the summer session of 8 weeks between Years IV and V.

Requirements for B.A.—In order to qualify for the B.A. degree, candidates entering Year I must complete successfully all courses required in Years I and II, including three liberal arts courses and the course in physics, offered by the Faculty of Philosophy. (Candidates who have already taken college physics may be excused from the required course, provided their knowledge of the subject is considered satisfactory by the department of physics.) No student admitted to Year I will be allowed to enter Year III, or become a qualified candidate for the M.D. degree, until he has received the B.A. degree.

Requirements for M.D.—To be eligible for the M.D. degree, candidates must successfully complete all of the required courses of Years II through V. Students who have been permitted to accelerate their studies in the clinical departments (see above) will be awarded the M.D. degree only after they have successfully completed a year of hospital internship or graduate fellowship.

Independent study and research.—The liberal blocks of free time, provided particularly in the last 3 years of the curriculum, are designed to allow students to engage in elective studies and research. Those participating in research during the academic year or the summer will be eligible to apply for undergraduate research fellowships. Students wishing to devote a full year or more to research may be selected to "drop out" of the regular program, preferably after completing the required work of Year III. So that they may

do so without financial sacrifice, they will be granted "post-sophomore" fellowships, which will provide full payment of tuition and a liberal allowance for living expenses. At the end of the fellowship period, such students will be allowed to re-enter the regular program and, if permitted to accelerate their clinical studies, they may still graduate with their own classes (provided their "drop out" fellowships have not been for longer than 1 year).

Addresses

TEN YEARS' WORK IN THE PRACTICAL TEACHING OF SOCIAL MEDICINE*

MARCEL GRAFFAR†

For the last 12 years or so, Brussels University, where I have the privilege of teaching, has set aside a substantial period in medical school for the study of hygiene, preventive medicine, and social medicine. The final year comprises a 60-hour course on public and private hygiene and epidemiology. Most of this theoretical course is given over to the advanced study of the major traditional problems of hygiene and preventive medicine, and it is supplemented by numerous conducted visits to health and welfare institutions. Since 1945, the penultimate year at the School of Medicine includes a separate course on social medicine. This course comprises 30 hours of theoretical lectures. Without going into detail, it may be said to embrace medico-social demography, the influence of the principal social and economic factors on health, the methods of protection of particularly vulnerable groups such as pregnant women, the newly born, infants, school-age children, adolescents, etc., and, finally, the main questions arising in connection with medical and social legislation.

The professor of social medicine soon realized that theoretical lectures alone should not be expected to exert a very lasting influence in the future doctor's way of thinking; they should be supplemented by field work planned to enable the student to observe by himself the way social factors do affect health. Nowadays, clinical training is provided mainly in hospital wards, where the patient is artificially removed from his usual environment. In this way medical students come in contact only with patients whose personalities have been more or less absorbed in the very special hospital atmosphere. The social medicine field work can be a useful contribution to the student's general background by giving him opportunities to examine the patient in his own home, to observe his behavior and reactions among his relatives in his own environment; in such a setting the student is able to study much more readily than in a hospital ward the influence of social and psychological factors in the course of diseases.

American universities have introduced new methods of teaching which are generally described as "comprehensive medicine"; a fairly complex administrative set-up is usually necessary for this purpose. One advantage of the scheme introduced in Brussels University 10 years ago is that it is simple and therefore inexpensive. It may be briefly described as follows: in the last year but one, each student is assigned a patient selected by the University Hospital Welfare Service; the student establishes contact with the patient with the help of a social hygiene nurse, from the University Social Medicine Department; he is instructed to visit the patient's family, to investigate the medical, social, economic, or psychological difficulties confronting him, and, after an adequate period of observation, to propose

* Delivered at the Congress on Social Medicine, Vienna, in June, 1957.

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solutions to the unfavorable factors he has observed; after spending several months on this medico-social assistance work, the student submits a written report to the professor.This training scheme has been gradually improved upon with the passage of time; most of the difficulties encountered at the outset have now been overcome, and it may be said that, at the present time, it represents an extremely useful addition both to theoretical teaching of hygiene and social medicine and to traditional clinical instruction in hospital.

When this type of training was first applied the student had to concern himself with a single individual, who was usually an adult who had applied for immediate financial assistance to the Hospital Welfare Service. Patients were therefore chosen mostly from the poorest social class of the population; the student was inclined to look only for solutions to the most urgent financial problems. As a result, this kind of social work did not appeal very much to him, and he tended to ignore the medical, hygienic, or psychological problems affecting the patient. After having visited the patient a few times and having settled the most pressing financial difficulties, the student felt that his work was finished.

These defects have been gradually corrected. The student is now asked to help a whole family instead of one individual. The family is chosen from a wide range of social classes, following attendance at the hospital by one of its members, often an expectant mother going to the prenatal consultations held by the Obstetric Department or a child taken to the Children's Department. It has been found that a student more easily gains the confidence of the family when he contacts its members in connection with a birth or the illness of a child than when the occasion is the illness of an adult. However, while he is encouraged to place great importance on preventive medicine in relation to maternity and childhood, even greater stress is laid on the need for attention to the equilibrium of health and social factors in the family as a whole and to the physical and mental health of all the adults and children composing it. The student is required to keep watch over the family for an entire academic year. He is helped in his work by the welfare nurse from the Social Medicine Department, and also has the benefit of advice given by the professor or a graduate assistant.

The student's work may be roughly divided into two parts: the first covering the examination and observation of the family and the second the provision of the assistance eventually needed.

Observation and fact-finding must obviously be complete before a solution can be proposed. They must be comprehensive and include, in particular, study of hygiene factors: hygiene of the home, food, clothing, work, etc.; study of social and economic factors; source and amount of the family's income, main items of expenditure, amount of assistance and allowances received from welfare agencies, etc.; study of the medical history of each member of the family: the files can be obtained from the hospital records, and the student is expected to supplement them by detailed questioning and by arranging for additional medical examinations.

The student is told that his first aim must be to get an objective idea of the actual facts, but that, once this has been achieved, he will have to go deeper. He is advised to try to understand the patients' feelings—this is regarded as of primary importance, and he must know exactly how the patient himself looks upon his illness, what he thinks about the treatments proposed—and to investigate the psychological relations between the various members of the family.

Observation is followed by consideration of the assistance to be given to the patient

and his family. Students are recommended not to give advice until they have a perfect grasp of the situation and not to impose solutions by force or even by persuasion: they should try to make the patient aware of what he can do to help himself, to inform him of the help available for him in the community; to show him the cause of his difficulties and to assist him in choosing, himself, the best solution to his problems. Stress is also laid on the need to respect the patient and his family; the most unfortunate or the most poverty-stricken, however far they have fallen, have rarely lost all sense of ultimate values, and they still retain sound feelings which must be discovered, encouraged, and developed—the best way of giving new strength to those who are weak or discouraged. Nearly all students understand this approach, and they carry out their medical-social work in an intelligent and conscientious way; many of them succeed in saving families which were heading for disaster.

Each student is assigned to one family only; the medical curriculum is so heavy that he could not easily find time to keep watch over several families simultaneously. This is the main shortcoming of the scheme, since the student is in personal contact with only a limited range of medical and social problems. An attempt is made to remedy this by arranging a weekly discussion group, during which each student, in turn, explains to the others the special features of the situation he has under observation and his suggestions for improving it. Each report is followed by a discussion, in which the other students and the professor and his assistants take part. Attendance at these discussions is optional—students may come as often or as infrequently as they please. However, it is a cause for satisfaction that the attendance rate is high, thus demonstrating the keen interest shown. These meetings are also of great value to the professor, since regular attendance provides much useful information about the life and difficulties of ordinary people.

In conclusion, it should be stressed that the scheme that has been described represents a very inexpensive method of practical training in social medicine. The only financial requirement is the salary of the specialized welfare worker who is helping the students in their social field work.

ABSTRACTS FROM THE WORLD OF MEDICAL EDUCATION

The Role of the City Hospital in Medical Education. The New England Journal of Medicine, **15**:731–32 (Oct. 9), 1958.

The place in medical teaching of a large municipal hospital was one of the main themes of the 7th annual dinner meeting of the Boston City Hospital Alumni Association, held on April 26, 1958, under the presidency of Dr. Maxwell Finland. The two principal speakers on this and related subjects were Dr. Jeghers (cf. abstract on his address on *Medical Education Today*) and Dr. James M. Faulkner, medical director of Massachusetts Institute of Technology (former dean of Boston Univ. School of Med.). In his informal address, the latter put special emphasis on the development of Boston City Hospital as such a teaching center. He showed the way in which three major medical schools have been able to apportion the hospital services for teaching purposes, both in medicine and in surgery. He pointed out that, in the favorable atmosphere created by the co-operative efforts of the staff, the trustees, the mayor, and the schools, research also blossoms. (The most recent development has been the establishment of the Sears Laboratory for surgical research.) During the same meeting, Mr. Sherman Morse, architect, presented a brief account of the "Shepley Report" for the revitalization, modernization, and expansion of Boston City Hospital in order "to keep pace with the growing opportunities for the best types of medical service, teaching and research."A highlight of the meeting was the presentation of the Leonard B. Wood Medal to Dr. Stanley Cobb who, as Billard Professor of Neuro-Pathology at Harvard, had opened the Neurological Unit at the Hospital. Dr. Cobb's reply in accepting the award, which brings out the history of General Wood as a neurosurgical case, is reproduced in this report.

Regarding Medical Education Today. HAROLD JEGHERS. The New England Journal of Medicine, **15**:718–20 (Oct. 9), 1958.

Applying a critical evaluation to teaching techniques has been the author's fundamental interest for some 20 years. During this time unique opportunities were afforded him for studying different forms and philosophies of medical education, especially during his 14 years in the academic atmosphere of three medical schools working effectively together at Boston City Hospital. This medical center permits many observations of the educational process at all levels. From these experiences Dr. Jeghers derives certain basic concepts, vital in medical education, which are briefly presented in this paper. According to him, the undergraduate medical school years are essentially devoted to three things: (1) acquisition of a minimal amount of factual knowledge and technical skills; (2) an understanding of the traditions of medicine; and (3) a growing realization of the importance of self-education. The great defect in present undergraduate education lies, in the author's view, in the relatively minor emphasis on this third concept, because for him, "the real secret of medical education is to learn to educate oneself." On the other hand, he finds that certain striking improvements over older educational concepts have become increasingly evident in recent years. In the first place, the growth of the clerkship technique of teaching clinical subjects is gradually replacing the traditional lecture and passive observation ap-

proach. Other improvements are seen in the increasing emphasis being placed on the evaluation of the patient as a person; the influence of social and environmental factors; the study of long-range effects of disease and their prevention, and the growth of rehabilitation therapy. Dr. Jegher's last comment in his survey of medical education concerns the training of the intern and a growing appreciation that *the internship year is the pivotal and most important single year in the training of a physician.*

Sociological Research in Medicine: Fact and Theory. GEORGE C. READER and MARY E. W. GOSS. (Paper presented at the Meeting of the American Sociological Society, Washington, D.C., August 28, 1957).

Sociologists, along with those in other social sciences, are ready and able to join the increasingly large number of scientists who, directly or indirectly, are engaged in medical research. The nature and value of their contribution are discussed in this paper, and an attempt is made to assess expectations for the future. Some recent studies have indicated what they believe sociology may ultimately offer to medicine (cf., among others, Simmons and Wolff, *Social Science in Medicine*, N.Y., 1954; H. R. Leavell, Medical Progress. Contributions of the Social Sciences to the Solution of Health Problems, *New England J. Med.*, **247**:855–97, 1952; A. R. Mangers, Medical Sociology, *Sociology and Social Research*, **39**:158–64, 1955). These writings repeatedly suggest that a major contribution lies in the explicitly social point of view which sociology provides for the medical clinician. Another offering to medicine could well be found in those sociological studies which relate specific social factors and processes to particular states of health and disease. A number of such accomplishments have been reviewed in detail by Caudill ("Applied Anthropology in Medicine," *in:* A. L. Kroeber, ed., *Anthropology Today*, U. of Chicago Press, 1953) and Reader ("Medical Sociology: A Review of the Literature," *Am. Sociol. Rev.*, **22**:73–81, 1957). These reviews show how social scientists are making significant progress in understanding the increasingly numerous and varied types of social phenomena which have a bearing on medicine. In this paper it is pointed out that one striking feature of sociological research in medicine is that its fact-finding has been quite selective (for instance, recent sociological literature contains a good deal of data on psychological, social, and economic variables in relation to mental health, but much less in regard to other diseases). Thus, there are now some "islands" of factual data in the field, but there are few "networks" of such data. Another observation made by the authors concerns the diversity of conceptual foci with which sociologists have approached their fact-finding, and the resulting differences in their consideration of theoretical problems. This does not constitute a defect; on the contrary, it is pointed out that, if adequate sociological coverage of social phenomena in medicine is to take place in the future, investigators who approach the subject with a variety of theoretical concerns will be required. Another aspect of the problem discussed in the present study is the need to achieve an appropriate balance between fact-finding and scientific theories in sociological research. As an example for the attainment of such a balance, sociological investigation applied to medical education is mentioned (cf. Merton, Reader, and Kendall, eds., The Student Physician, Harvard U. Press 1957; E. C. Hughes, "The Making of a Physician," *Human Organization*, **14**: 21–25, 1956). The decision to go beyond mere fact-finding has proved to be fruitful, as indicated by several recently published papers, such as a study of the development of professional self-images in medical students (cf. Mary Jane Huntington, "The Development of a Professional Self-Image," in Merton, Reader and Kendall, op. cit., pp. 179–87) or an account of some of the processes involved in the decision to study medicine (cf. N. Rogoff, "The Decision To Study Medicine," op. cit., pp. 109–29). Medical

researchers unfamiliar with sociology may at times ask sociologists to collaborate with them merely to obtain more facts. This means failure to make use of the two most valuable attributes of the sociologist: his professional objectivity in examining human behavior and his ability to see the immediate problems in terms of their sociological context. In conclusion, it would seem that the optimal research contribution the sociologist may make to medicine for some time to come consists of using the scientific method in pursuing studies which are based on and add to sociological theory. As research provides more facts, and as these develop into larger networks of information, more concepts and principles from sociology will become applicable. Likewise, medical research may well take a significant step forward as man in relation to his total environment is examined with particular reference to the social behavior involved in health and disease.

Tasmanian Island Practice. PETER H. SHERWOOD. The Practitioner. **181**:199–204 (August), 1958 (London).

"Whatever may be said about Tasmanian Island practice it is never dull," asserts the author at the outset of his detailed report on a general practitioner's life and work in Tasmania. Dr. Sherwood's practice covers the Furneaux Group of islands, which is about the size of a small English county and has a total population no greater than that of a large village. Visiting between the islands is done in a 30-foot police launch, and a good deal of his time is spent traveling by land and sea, exposed to all kinds of hazards (a chief hazard while traveling by car at night is kangaroos which are in the habit of jumping at the headlights). Communication with the mainland (Australia) is difficult, since only a few of the islands allow the use of aircraft. The difficulties brought about by the geographical situation naturally affect the organization of practice, which the author describes at length. His practice forms part of the Tasmanian Government District Medical Service. District medical officers are provided with a furnished house, medical equipment, and an adequate annual salary (in addition, they have the right to private practice after 6 P.M. and on weekends). Advantages and disadvantages of this kind of practice are discussed, and an Australian Island doctor's main problems are explained. Most of these problems, says the author, resolve themselves into one: Can this case be dealt with here or must it be sent away? (to the mainland or to Base Hospital). As a matter of policy, Dr. Sherwood tries to send away all abnormal obstetrics and all major surgery. Some typical difficult cases in this category are described. In conclusion, the author, who emigrated from England, expresses satisfaction with his work and life in Tasmania. "The life," he writes, "is one of responsibility but of complete professional freedom. I can recommend it."

The Teaching of Sexual and Marital Relations to Medical Students. British Medical Students' Association. 47 pp.

The present booklet gives a detailed account of the half-day symposium which was held on this subject in November, 1957. After a brief introduction by Edward J. R. Rossiter, Education Officer, on the background and purposes of the meeting, the principal speeches are reproduced in full (student speeches are edited, for financial reasons, retaining only their main points). Chairman of the meeting was Dr. Graham Grant, Student Health Officer of the University of Wales. Dr. Bernard Sandler, an expert on marriage guidance and family planning (whose article in *The Lancet*, 1957, drew attention to the problems discussed), opened the session. On the basis of inquiries made among medical schools in England and abroad, in order to discover what teaching on the subject was actually being done, he found that in most cases it was non-existent (in some places there even appeared to be active resistance against it). Dr. Sandler strongly recommends instruction in sex edu-

cation for medical students and suggests that each University should also have an adviser to whom students can bring their own personal problems. His speech was followed by that of Dr. Sylvia Dawkins (from University College Hospital, London) on problems of birth control and family planing, emphasizing the need for facilities for medical students to acquaint them with these problems and to receive advice especially on contraception. Dr. Clifford Allen, a London psychiatrist specializing in sexual disorders, talked about the place of instruction in sexual aberrations and delinquency in medical education. To Prof. McLaren (Dept. of Obstetrics and Gynaecology at Birmingham) fell the task of summing up and putting "into academic perspective" what so far had been discussed by the preceding speakers. The second part of the symposium was taken up with a discussion between the speakers and the student delegates of different points and opinions voiced in their speeches. The following are the symposium's conclusions summed up by the Association's Education Officer in the guise of suggestions to be submitted to medical schools and teachers: (1) Teaching on these problems is seriously inadequate in most medical schools. (2) There are no grounds, however, for creating a new department in this field. (3) Proper teaching must be made available. (4) Libraries should have a wide selection of literature on these topics, and students must be made aware of them. (5) The most important factor is to help each student to solve his own problems as they arise, and more attention should be paid to this aspect.

An American Report on the National Health Service. PAUL F. GEMMILL. British Medical Journal, Special N.H.S. Supplement, pp. 17–21 (July 5), 1958.

This is not "an American view," or personal appraisal, of the British Health Service, as the author (a professor of Economics at the University of Pennsylvania) points out, but a "plain unvarnished account of what some British doctors and British patients told an American who was trying to learn all he could about their nation-wide system of medical care." Dr. Gemmill starts out emphasizing a not too well known fact: that the N.H.S. is not a system "hastily thrown together" but "a piece of social provision," the development of which goes back to 1911, when the National Insurance Act was put through Parliament and which culminated in 1946, with the Labour Party's coming into power, in a new health scheme —the so-called Bevan Act, passed by a vote of 261 to 113. An editorial comment in *The Lancet*, at that time, declares that seldom has a Bill been presented "after so full a canvass of those affected, or so wide an exploration of alternatives." And while in operation (under a Labour Government from 1948–51, under the Conservatives ever since), debates on details have continued. However, the principle of the Service—free access for all to every kind of medical care—has been accepted by all political parties in Britain. The author's inquiry among practitioners and patients covers fourteen centers of population of his own choice. He obtained "returns" from 48 English, Scotch, and Welsh cities, towns, and villages. His information regarding the doctors' view comes from 139 medical practices (many of them partnerships), including 372 general practitioners, who provide family-doctor service for about 850,000 patients. Replying to the question: "Do you find the volume of 'paper work' very burdensome?", only 39 per cent of the practitioners asked answered *yes*, 61 said *no*. In reply to the question: "Do patients often, occasionally, or almost never take up your time with minor ailments?", 49 per cent of the doctors said *often;* 30 per cent, *occasionally;* 21 per cent, *almost never*. Discussing this question further, several doctors argued strongly that it is the doctor's job, and not the patient's, to decide whether there is need for treatment, and therefore patients should be encouraged to seek medical advice freely. Furthermore, requests for medical attention for very minor ailments sometimes lead to prevention of serious

ones, according to the opinion of 60 per cent of the doctors asked. Are British doctors overwhelmed by too many patients? Those who took part in the interviews each had to look after an average of 2,283 patients: 58 per cent of them found it *reasonably easy* to give adequate medical care to their patients; 37.8 per cent found it *difficult;* 3.4 per cent, *almost impossible.* On the side of the patients, a common complaint against the free medical service concerns the "long waits" they sometimes have to endure in doctors' offices and out-patient departments of hospitals. However, some improvements recently made by the Ministry of Health have reduced the average waiting time for out-patients so that it does not now exceed 30 minutes. Although more than half of the total annual expenditure for the N.H.S. consists of hospital and specialist costs, there has always been, and continues to be, a shortage of hospital service because of the unprecedented demand for hospital care brought about by the adoption of the N.H.S. in 1948. The latest published figures show that in December, 1956, there were in Britain 431,000 persons on hospital in-patient and out-patient lists, which, compared with 531,000 in 1950 and subsequent figures, means a slow but steady decline in the number of hospital patients. As to the question of priority in hospital service, the testimony of general practitioners indicates that they can make certain that patients whose lives might be endangered by delay are cared for ahead of those of less urgency. The argument, currently advanced in the first years of the Service, that "patients who genuinely need treatment are *often* kept out of hospital because the beds are occupied by persons with minor ailments," was supported only by $2\frac{1}{2}$ per cent of the doctors questioned. Much discussed in Britain during the last few years has been the question of doctors' pay. The system of payments, explained in detail in this report, is very complex and confusing for foreigners. In brief, it can be said that the remuneration of the average general practitioner, after allowing for overhead costs of the practice and for taxes, would be about $4,500; but, since the cost of living is at least 25 per cent lower in Britain than in the U.S. this amount would be within the upper 2.4 per cent of the nation's incomes. In hospitals the basic salary for full-time specialists is $8,680 a year, but "distinction awards" may bring an additional $1,400. An appraisal of the broader nature of the benefits received from the N.H.S. by the population is revealed in the answers to these questions asked by Dr. Gemmill: (1) "From your *personal* experience, do you consider the N.H.S. better or worse than the service you got before 1948, or about the same?" 37 per cent found it *better;* 13 per cent *worse;* 50 per cent about the same. (2) "Do you feel that you are now getting satisfactory service of the several kinds provided by the N.H.S.?" 91 per cent answered *yes.* Practitioners were asked: "Under N.H.S., are the medical needs of the country as a whole being better met, less well met, or about the same as before?" The answers were: *better met,* 87 per cent; less well met, 3 per cent; about the same, 10 per cent; $98\frac{1}{2}$ per cent of the practitioners said, when asked, that they regarded the N.H.S. as a *permanent* British institution, and people outside the field of medicine answered the same question, again with an almost unanimous *yes.* Although the author did not find in Britain the tendency to claim for the N.H.S. anything approaching perfection, acceptance of it—subject to demands of improvements—is, as can be seen by the data presented, wholehearted and universal in Britain. Representative of the general opinion may be the appraisal made by a Conservative member of Parliament, with which the present report concludes: "We do not have a first-class but only a second-class medical service. However before 1948 it was only fourth-class. It has been improving ever since and by and by we shall have a Health Service that is truly first class."

The Integrity of Medicine. HECTOR R. MACLENNAN. British Medical Journal, N.H.S. Special Suppl., pp. 7–11 (July 5), 1958.

Unlike the new generation of doctors who are largely unfamiliar with the practice of medicine as it existed before the institution of the N.H.S., the author (a Senior Consulting Gynecologist, Victoria Infirmary, Glasgow) now 40 years old, spent half of his life before the Service was introduced, and therefore feels "like one with the experience of the old who is trying to grapple with the problems of the new." Comparing the past with the present, he points out that there can be no doubt in anybody's mind that the N.H.S. has brought with it many major improvements, although he thinks that it would be wrong to assume that many of these benefits could not have been achieved by any other means. This paper's main purpose, however, is to determine the effects of the N.H.S. upon the medical profession as a whole and to determine whether there has been any change in its component parts. For no matter how good the Health Service is today, its future will depend essentially on the quality of the medical profession and the esteem in which it is held by the public. Prior to the last war, and for half a century, the medical profession was well integrated, with each and every section closely interrelated. To some extent it was because of this integration and because of the respect and popularity which the medical profession enjoyed that politicians of all parties were eager to make political capital out of what was already an effective service. None of them could conceive a Welfare State in which the profession did not play a major part, although in the end it was up to the Labour Party to introduce the N.H.S. Today the Service is being maintained to a large extent by those who were brought up and trained on ethical professional standards which existed before its institution. However, younger members of the profession, even those who have adopted similar standards, are bound to be affected by the revolution in medical practice which has taken place. Examining the new situation, the author's first consideration is that the relationship between the public and the medical profession has deteriorated since the N.H.S. was introduced. People seem now to feel that by their health contribution and by Exchequer grants they are paying fully for medical service and that such payment discharges any obligation to the profession. The latter cannot expect gratitude in the degree it formerly received; but the regard of the public thrives on deeper emotional roots than mere payment can satisfy. It is the human values which the medical profession has to offer which are perhaps its strongest contribution to society. If the huge administrative machine which the N.H.S. has created, or the different attitudes in today's physicians, causes the decline of this human relationship, then the prestige of the profession is also diminishing. Are there factors within the medical profession today which might endanger its integrity? Among the causes for a possible disintegration, the author finds that a cleavage in the relationship between general practitioner and specialist is all too evident, although the recent foundation of the *College of General Practitioners* means a most encouraging move toward greater unity between the two great branches of the profession. Among the specialists and consultants themselves—teachers, non-teachers, basic research workers, clinical research workers, etc.—there are also some elements of discord, as seen in certain attitudes of intellectual snobbery which may lead the basic scientist to denigrate the work of the clinical researcher; or some clinicians may sneer at the "back room boys." Another factor of division may arise from the otherwise excellent provision of the N.H.S. which allows the consultant to practice either full-time or part-time according to his own particular interest. This tends to split consultants into two categories. As to the elements of disintegration of the profession from without, it can be profoundly influenced by actions of the new bodies concerned with the Health Service administration. The medical representatives sitting on these various boards, together with laymen, must be carefully chosen, warns the author, in order to truly represent the medical profession. Public relations are also discussed

in this paper's conclusions. The author thinks that the medical corporations and associations do not pay enough attention to the importance of the public relations mechanism. However, only one aspect of this broad subject is here considered, namely, the question of medical anonymity in connection with the press. In the author's view, medical anonymity (that is, medical articles have to appear unsigned in the nonprofessional press) is in England the "bulwark of correct professional behavior," and he laments the fact that some doctors have started to regard it now as an anachronism.

Lessons from the Past. LORD MORAN. British Medical Journal, N.H.S. Special Suppl., pp. 3–5 (July 5), 1958.

This is an appraisal of the National Health Service "seen through the eyes of consultants." Lord Moran, President of the Royal College of Physicians from 1941 to 1950, expresses his conviction—as well as the general opinion—that introduction of some sort of governmental health scheme was a historical necessity in England, and, if the Labour Party had not launched the Service, the Conservatives would have done so when they took office. The medical profession had the choice between a service set up by the Ministry of Health without any advice from doctors, or one "shaped and moulded by their own hands." They chose the latter. Do they now regret their decision? The author believes that the overwhelming majority of consultants and specialists do not wish for a return to the days of the old *voluntary* hospitals (where all the work was carried out without remuneration) and would prefer present conditions. Before the N.H.S. it was economically difficult for many consultants to exist outside the urban centers. Now, not only have consultants been distributed over all areas of the country, but their number has grown considerably (in the Newcastle region, 164 consultants in 1949 compare with 409 in '57); and not only can a specialist be consulted in the hospital, but a general practitioner can call him to any patient's home without worrying about the financial burden. Before the N.H.S. there was a small number of first-rate hospitals and many others of the Public Assistance type which "Dickens might have described in one of his reforming moods." After the Service was established, the Ministry of Health aimed at one standard, and the redistribution of consultants made the up-grading of hospitals possible. The "merit award" given to a third of all consultants represents a very substantial addition to their basic salaries and provides an incentive for higher medical standards. Is research starved in the Service? Lord Moran, discussing this question often used as an argument against the N.H.S., recalls the days when he was chairman of the Royal College's scientific advisory committee. It was then not difficult to get money for research, but hard to find the men to do it. This brings him to the heart of the matter: his conviction that the efficiency of the N.H.S. depends ultimately on (1) the quality of the student entry and (2) the training given to these students. It is his impression that the State's now paying the cost of the medical student's education is a source of weakness, because the selective system, based on examinations only and ignoring character, seems to him "extremely fallible." As to the training of students, one of its critical points is, in his opinion, the prevailing emphasis on prescribed drugs. Another of Lord Moran's criticisms is concerned with the financial aspects of the N.H.S. He thinks there must be a halt to the soaring expenditure it means and suggests a few cuts which would not lower standards of medical care. In his conclusions the author asks: Is the Service working smoothly? Are the doctors happy and content? As to the consultant, he is considered to be relatively content with his lot. His practice has not been changed greatly except that he now spends more of his time in the hospital and does not have to worry about private practice. Not so the "would-be consultant," the senior registrar whose plight is called "distressing." And there is cause for discontent among the general prace titioners, not so much because of inadequat-

remuneration but because of "an insidious decline in the status of the general practitioner" over a number of years. This cannot be ascribed, however, to the N.H.S. but rather to public feeling, already existing before its introduction, that in serious illness people are safer in the hands of hospital specialists. Now, with specialists available free, the practitioner is no longer able to engage in a little specializing which in other times had lent interest to his practice.

The National Health Service after Ten Years. H. GUY DAIN. British Medical Journal, N.H.S. Special Suppl., pp. 1–3 (July 5), 1958.

After a decade of experience with the National Health Service, the author (Chairman of the Council of the British Medical Association from 1943–49) reviews its actual conditions in order to determine achievements as well as failures. First of all, he states that, from the point of view of the "consumer" (that is, every inhabitant of the country), there is no doubt that it has been "an enormous benefit and success." The knowledge that medical service is available regardless of cost is surely a great comfort even at a time when one has no need for it. Furthermore, the absence of any financial barrier between doctor and patient must make their relationship easier and more satisfactory. However, a critical look must be taken in order to discover why the system is not functioning as well as it might. The one critical point in the present system is, in the author's view, the question of adequate and fair remuneration of the physicians. The debates on this problem had resulted in the establishment of the *Spens Committees*, whose decisions were accepted by both parties. The results of their activities, however, after 10 years' experience, are called "dismally disappointing." Today the British Medical Association is awaiting the decision of a Royal Commission set up to do what the *Spens Committees* were supposed to do, i.e., to fix remuneration of doctors so that it would be adjusted to altered values of money and varied with the work done, without either the Minister of Health or the B.M.A.'s being involved in the bargaining. The author believes that remuneration is a vital question, because as long as it is not solved it is disturbing and vitiating the smooth working of the Service. Meanwhile, it would help, he suggests, if doctors could make a charge (to be fixed) for late and night calls. The experience of earlier days shows that this would protect the doctor from needless calls, and patients in need would not grudge a fee. Another disturbing fact has been that, for the general practitioner, transfer of the practice from his own hands to the government has had a serious limiting effect: it is now very difficult for a physician to change the area of his practice. As to the problems connected with the hospital service, it is considered unfortunate that no proper estimate of cost or development was made in advance. With medical and surgical progress, costs increase, but there is never the money necessary to staff the hospitals adequately and still less to build new ones. In conclusion, the author believes that the present Health System, having been the physicians' choice (as against a full-time salaried service for G.P.'s) has certainly provided clinical freedom. The way private practice steadily diminishes is evidence of the efficiency of the medical care provided by the N.H.S. However, it is to be hoped that the matter of control of the Service will be reconsidered. The present Civil Service method under a Minister who changes frequently and is therefore unable to make or carry out long-range planning is never likely to achieve a proper integration of the many aspects of medicine—teaching, research, preventive medicine, hospital, and general practitioner services.

The Way Ahead. SIR HARRY PLATT. British Medical Journal, N.H.S. Special Suppl., pp. 5–7 (July 5), 1958.

In all advanced countries, during the past two decades, the cost of medical care has

risen to unprecedented heights. At the same time, from World War II on, two things gradually became clear: (1) that the great majority of the population would need some form of prepaid insurance to meet individual expenses for medical care; and (2) that the *voluntary* (free) hospitals as a whole could not hope to survive in Britain without substantial government subsidies. A solution was offered by the N.H.S. experiment, universal in its benefits and based on a small insurance premium common to all and collected by the State. The U.S.A. chose the system of voluntary insurance, the growth of which has been spectacular since 1941. Also, the U.S. government expanded the medical facilities of the Veterans Administration in the form of a nation-wide hospital system entirely financed from the Federal Treasury. The N.H.S. has been on trial for 10 years now. Three outstanding achievements of the system are universally acclaimed: (1) The unified hospital system created by the merger of the voluntary and the local authority hospitals under one direction; (2) the establishment of the region as planning unit; (3) the distribution of consultants and specialists to smaller hospital centers where before no such services were available. On the other hand, it is not surprising that after 10 years the N.H.S. is being subjected to a barrage of criticism from many different quarters. The most recurring one is the accusation of extravagance, as a whole or in particular fields. The first mainly concerns the apparent failure of the Service to bring its three main sections—general practitioner service, hospital service, and the local authority services—into one unified economical whole. The author (President of the Royal College of Surgeons 1954–57) thinks, however, that though coordination of these services sounds attractive, there is no guarantee that it would bring about major economies. A second source of criticism is excessive expenditure in drugs, especially in the more expensive types. The author believes that a true remedy for this flaw is in the hands of clinical teachers in medical schools who alone can create a sense of responsibility and perspective in the education of the future physicians. The question now is whether one can expect during the next decade to see released from central Government funds, year by year, sums which will remedy the shortcomings in hospital services as well as provide for the ever expanding needs of scientific medicine. The author is not optimistic on that score, concluding that, in the future, hospitals, especially teaching hospitals, must be encouraged to seek additional sources of finance outside the budget of the N.H.S., mainly through appeals to the community, industry, and philanthropies. Some suggestions are offered as to what new teaching hospitals, likely to arise out of the proposed policy, should be like.

Die Stellung des Kindes in unserer Gesellschaft. Aktuelle Probleme der sozialen Pädiatrie (The Position of the Child in our Society. Topical Problems of Social Pediatrics). GERHARD JOPPICH. Deutsche medizinische Wochenschrift, pp. 1845–48 (Oct. 17), 1958 (Stuttgart).

The concept of social Pediatrics embraces more than mere problems of social welfare for the child. With living standards rising, problems of this nature are steadily receding in most civilized countries. However, while the rate of infant mortality and epidemic diseases is on the down-grade, the increasing frequency of psycho-neurotic disturbances in children has become the most important problem which confronts the social Pediatrics of our time. Concerned with prevention rather than with therapy, this branch of medicine, in order to stem the tide, must first of all search for its causes. The author (Director of the Pediatric Clinic of the University of Göttingen) rejects as an oversimplification the often advanced explanation of the phenomenon as a direct consequence of the cataclysmic effects of the last World War. A decisive argument against this assumption is, in Dr. Joppich's opinion, the fact that in two countries spared by the war —Switzerland and Sweden—one neverthe-

less finds largely the same neurotic trend in children. Without ruling out the effects of war as one of the causative factors, the author is convinced that the origin of neurotic disturbances in modern children goes much farther back. For him they are, in the last analysis, the consequence of a series of developments of *biological* rather than social nature which have brought about a radical change of the child's position in our society. A determining agent in this development has been, according to him, the drastic reduction in the rate of infant mortality among the civilized nations. Failure to adapt physically and mentally to the changed situation has been an aggravating factor in the condition of today's children. While their position has improved greatly compared with that of former times, while the many dangers and hardships they were exposed to in the still recent past have been removed, modern society has created new problems for the child. On the one hand, childhood years have been extended; children now are allowed to remain children during the years in which, in earlier times, they were considered breadwinners or had other adult tasks imposed on them. But the "kulturelle Verwöhnung" (cultural pampering) during the later years of childhood is upset by the parental neglect which a great number of children suffer during their early years because of the increasing participation of women and mothers in the economic production process of civilized countries. Nurseries and kindergarten have proved to be poor substitutes for the intimate relationship between mother and small child which has always been cultivated in more primitive societies. Education in general, based in former times on firm religious principles, has lost its universal character in our society which lacks a common universal ideal. It has shifted from parents to school and is inadequate to prepare children properly for the problems they inevitably will be confronted with as adults in our society. It is the lack of adaptation, the hampering of the growing-up process which produces, especially during puberty years, crises which were unknown to former societies. Social Pediatrics, concerned in the past mainly with the fight against infant mortality and epidemic diseases and with welfare measures for underprivileged children, must now, in close collaboration with parents, teachers, and public organizations, orient itself mainly toward finding remedies for the prevailing deeper-rooted and less tangible ills which afflict the children in today's society.

The Medical Education of James Lloyd in Colonial America. HENRY R. VIETS. The Yale Journal of Biology and Medicine, pp. 1–13 (Sept.), 1958.

The author—Curator at Boston Medical Library—presents a study of medical education in the Colonial period by taking a single individual, James Lloyd of Boston, and following his development during his years of learning up to the moment of his beginning practice in 1752. Enough documents are preserved to outline in detail his life story as a young man of superior talents, in the cultural atmosphere of New England, whose course of study was in many ways typical of the pre-revolutionary era. At that time, only families of considerable financial and social resources could afford apprenticeship and subsequent European medical education for their sons. James Lloyd, scion of an English "gentleman's" family which had prospered in America, was born in 1728 on Long Island, N.Y. (his father was the Lord of the Manor of Queens Village). At an early age he was sent to Stratford, Connecticut, to study with the Reverend Samuel Johnson, the well known clergyman and Berkeleian philosopher. At the age of 17 he moved to Boston to stay with his brother Henry, 20 years his senior, who was agent of purchase for the British government. James Lloyd's medical career started with apprenticeship to the Boston apothecary and doctor, Sylvester Gardiner, who had a thriving practice among the leading families. After leaving the Gardiner household (a letter from his brother to his father reveals that Gardiner, who had treated him as a servant, "dismissed" him in 1745), James continued

training with Dr. John Clark (1698–1768), one of the leading physicians of his time, by whom, in the words of his brother, he was "in every way treated as a gentleman." For this privilege James had, however, to pay the rather stiff price of £400 ("without washing and mending"). Clark instructed him in the "Arts, Mysterys and Business of Physick and Surgery" for 2 years ("Dyet and Lodging" included). In 1750, James Lloyd, for years "desirous . . . of spending a year abroad, in a Hospital" obtained finally from his father the financial aid to fulfill this wish and went to London, where he trained at Guys Hospital (at very heavy expense for his father). To complete his education, he took private courses with Dr. William Smellie ("teacher of midwifery") and with Dr. William Hunter. He visited the famous surgeon William Cheselden and spent a year with Joseph Warner as a "dresser" at Guys, where he learned the art and practice of surgery in daily contact with the great surgeon in a large hospital. Exploration by the author of documentary evidence preserved (partly reproduced in this paper) reveal quite a few details about James Lloyd's medical education in London. By May, 1752, he had returned home and had started practice in Boston. His medical career is summarized by the author as follows: "First trained at home by John Clark, he had subsequently seen the great Cheselden in his surgery, had been taught obstetrics under the guideance of Smellie, the leading exponent of a new and practical method of delivery, had come in intimate contact with William Hunter in the dissecting room and as lecturer on anatomy and surgery, and had finally spent a year as a dresser under the eye of Joseph Warner at Guy's Hospital. With his alert mind and driving power to make himself a master of medicine in its many aspects, the finished product was one of quality—a scholarly gentleman of superior attainments who brought to Boston in 1752 an outstanding example of medical education at its best in eighteenth century colonial America."

Perfezionamento e specializzatione dei medici in Polonia (The perfectioning and specialization of doctors in Poland). WALENTY HARTWIG. Minerva Medica, pp. 2597–2600 (Jul. 4), 1958 (Torino).

The present article, one of several which deal with medicine in present-day Poland published in this issue of the Italian medical journal, is a report on what is done in Poland to help practitioners keep pace with the rapid progress in medical science. This is not considered a purely individual problem which each doctor has to solve as best he can, but constitutes an important question of public interest. In a State based on socialistic principles, as the author explains, it is incumbent on the State to ascertain that every member of its population gets the best medical care. Therefore, it is also considered the State's responsibility to see that doctors are offered all possible facilities to acquire knowledge of the continuous advances in the various fields of medical science and practice. Poland after the war was a country almost in ruins. In the period from 1939 to 1945, 8,000,000 Poles were killed on the battlefield, in the liberation movement, and in German concentration camps. During the war years all high schools and universities had been closed. In 1945 there were in Poland about 6,000 doctors, one for every 4,000 inhabitants, and they were insufficient, in number as well as in training, to meet the needs of a nation which was just arising from its ashes. But before the problem of adequate medical instruction could be solved, "mass medicine" had to be practiced in the fight against the epidemic diseases which made ravages among a starved and exhausted population. Only gradually could normal medical education be resumed and hospitals opened with sufficient staff. Today, sixteen medical schools are functioning, and there are now 22,000 practicing physicians for 28,000,000 inhabitants (these doctors are relatively young—the average 30 years old—and the percentage of women doctors is high). After the first phase in the struggle for public health was over, the Min-

istry of Health turned toward solving the problem of raising the standard of instruction for all physicians. Medical school courses were extended from 5 to 6 years, and any subject not closely related to medical science was removed from the curriculum. In 1953, the "Institute for the Perfectioning and Specialization of Doctors" was founded in Warsaw. After 5 years of its existence, the author, its Director, attempts an appraisal of the results. Polish health administration divides the country into a number of districts, each with its own consultants (internists, surgeons, pediatricians, gynecologists, oculists, and neurologists). These consultants organize the district's medical services, visit hospitals and dispensaries, and are also concerned with the problems of specialization. It is they who decide which practitioners of their district should be sent to the Institute for Perfectioning, and they present each year a list of those to be assigned to it. During their period of studies at the Institute, doctors receive their full salary, and all living, traveling and study expenses are covered by the State. One period of studies organized by the Institute, which lasts 2–3 months, is dedicated mainly to hospital work. The greatest difficulty consisted in finding the requisite number of hospitals adequately equipped for the purpose of familiarizing doctors with the latest methods and knowledge in diagnosis and therapy which were not at the same time teaching hospitals for medical students. The latter type, because of the different aims pursued, was considered inappropriate for doctors' perfectioning, and using it would also add a new burden to university teaching hospitals. For its purposes the Institute has now made available a total of 24 clinics and sanataria which offer perfectioning practitioners an elaborate teaching program. In each of these hospitals, or hospital departments, a group of six to twelve "auditors" from the Institute are working, the relatively small number making it possible for them to participate fully in all clinical and research activities of the hospital. Seminar teaching methods are also used there. A second type of instruction organized by the said Institute consists in teaching short courses, of 1–4 weeks' duration, on a number of single problems; ten to fifteen doctors participate in each of these courses, which are often taught by eminent specialists and scientists, in close collaboration with university clinics and research institutes. Projects are made also to make use of the instruction offered in similar institutes of advanced studies for practitioners which exist in other countries (e.g., in Britain and the Soviet Union): Polish doctors who were sent to study abroad will have occasion, in organized courses, to transmit to the medical corps of their country the knowledge they have gained in new techniques and methods; foreign specialists will be invited to teach at the Warsaw Institute. Another field of activity of this Institute concerns the instruction of doctors who want to specialize. Their number is increasing constantly and has risen now to 800. On the whole, there were, during the last 5 years, nineteen different specialization programs offered to Institute Fellows (the Polish Government is specially interested in producing specialists in pediatrics, epidemiology, psychiatry, and laboratory research). Medical research is also an important area of activity, although in this matter the Institute had to solve some difficult problems, mostly of financial nature. Research is now carried out by Institute Fellows at larger institutions which have adequate staff and laboratory equipment. Results of their investigations have been published by the Institute: five manuals, five monographs, and 300 papers have appeared in print in 5 years. Some statistical figures on the scope of the Warsaw Institute's activities, inserted in this report, show that, during the 5 years of its existence, 4939 practitioners took the 3–5-month perfectioning courses; 7902 participated in the short courses; and the number of specialization Fellows went up from 679, in 1953, to 1096 in 1957.

NEW BOOKS

KENNETH E. PENROD
Book Review Editor

Reviews

The Physician and Group Practice. Edited by E. P. JORDAN with 35 contributors. Foreword by Russell V. Lee. New York: The Year Book Publishers, Inc., 1958. 238 pp. $6.75.

Every physician—and his wife—who contemplate entering group practice ought to read this book. It is not a fact book; the reader will find almost no statistics about group practice. The volume contains, rather, a frank and critical discussion of the human and organizational problems that are part of this "way of life." This phrase is taken from the first sentence of Lee's Foreword which sets the tone for the subsequent discussion. The contributors all appear to have had extensive experience. Although they are evidently *pro* group practice, they have made a determined effort to present a picture that includes the blemishes as well as the beauty. The seriousness of the human relations problems encountered in groups is amply emphasized by the several references to its similarity to marriage. The wife of the doctor contemplating group practice will find this book valuable reading, for she will apparently be only slightly less involved in a "way of life" than her doctor husband.

On the whole, this very complete book is readable, even though such topics as "the dentist in a group" or "the business manager" do not lend themselves to the easy style of a detective story. The authors must occasionally state the very obvious—"If a new building is decided upon, the first problem in site selection. . . ." The authors assume the virtues of group practice without dwelling on them, so that their presentation gives the impression that it is a series of problems without pat solutions. This omission is probably wise, because the advantages and virtues of group practice are quite apparent. It has the further virtue of making the volume informative in a very complete and real sense. If the doctor (and his wife) will read this book before joining a group they should never have the feeling that they did not have their eyes open if or when they decide to cast their lot with this form of practice.

OSLER L. PETERSON

The Medical World of the Eighteenth Century. By LESTER S. KING. Chicago: The University of Chicago Press, 1958. 346 pp. $5.75.

In this group of philosophical, historical essays the author deliberately avoids the more conventional forms of historical writing, such as a chronicle of dates, births, deaths, major achievements, and discoveries. Perceiving the eighteenth century to be a distinct period in medical history characterized by certain unifying qualities and trends, Dr. King sees in this segment of time the "adolescence of modern medicine."

Pathologist that he is, the author appropriately visualizes himself as focusing a camera on the past, making exposures on selected scenes of medicine in the age of Boerhaave, Cullen, Rush, Linnaeus, Pinel, Gregory, Percival, and other personalities who gave depth and color to the era. Making the most of his literary device, he arranges the composition of his pictures and frames them effectively. As a result the reader may at times feel that he is viewing stage settings.

The two chapters describing Hermann Boerhaave, first as systematist and second as scientist, portray with philosophical highlights and scientific definitiveness this dominant character of the age, whose name was long synonymous with medical authority. Pursuing the author's symbolism further, I would describe several other chapters as well arranged montages, notably, "Apothecary and Physician," "Quack and Empiric," and "Nosology."

None of "photographer" King's "shots" are dull like the snapshot of "Cousin Daisy posed before the Leaning Tower," which modern tourists impose on their friends. Since the

author does not claim to give a complete panorama of the eighteenth century, his book should be read for what it is—a series of historical essays with philosophical overtones and a literary style which adds to the reader's sense of enjoyment.

The "Foreword" by Dr. Ilza Veith is in itself a gem of historical writing and presents Dr. King's meritorious efforts with candor and justifiable praise.

W. F. NORWOOD

Abstracts

Poliomyelitis. Papers and Discussions of the Fourth International Poliomyelitis Conference, Geneva. Philadelphia: J. B. Lippincott Co., 1958. 667 pp. $7.50.

The proceedings of the first three International Poliomyelitis Conferences, dating from 1948, have been published. This is the fourth in the series, containing the proceedings of the conference held in Geneva, Switzerland, in 1957. Many different phases of the disease were discussed, but the centers of interest were vaccination, more information concerning enteric viruses that produced diseases simulating polio, and general considerations of viruses and of cultures of mammalian cells. New information was made available concerning new techniques in the diagnosis of poliomyelitis. Other sessions were devoted to group and home care of patients severely stricken by the disease. The scientific exhibit was an important feature of the sessions, and other aspects, including the social functions, were also covered by these proceedings.

Diseases of the Nervous System. By SIR FRANCIS WALSHE. 9th ed. Baltimore: The Williams & Wilkins Co., 1958. 364 pp. $8.00.

Eighteen years ago the first edition of this work was published. It has had wide acceptance over these years. From the first, the avowed aim of the author has been to provide a simple textbook adapted to the needs of the student and the practitioner. In the ninth edition much revision has taken place. The chapter on Vascular Disorders of the Brain has been largely recast. Two new chapters have been added: one on the Neurological Complications of Liver Disease, and a brief account of Hepatolenticular Degeneration. These were written by the son of the author, Dr. John Walshe. The first section of the book, on localizing diagnosis, has been somewhat changed and reflects a revision of opinion now proceeding consequent to new knowledge concerning control of movement and tone, and the anatomy of cutaneous sensibility. A very brief summary of the so-called "activating" and "integrating" systems in the brain stem has been added.

The Chemical Prevention of Cardiac Necroses. By HANS SELYE. New York: The Ronald Press Co., 1958. 194 pp. $7.50.

Cardiac necroses is the most common cause of death in man. It may present itself in many forms, and most of its varieties are traditionally considered to be quite unrelated. Yet, there is one feature in common: necrosis of cardiac muscle fibers is first invasion by inflammatory cells and eventually by scar tissue. Recent observations in the author's laboratory have led to the conclusion that electrolytes, steroids, and stress all play important conditioning roles in the development of cardiopathies elicited by the most diverse agents. This monograph is mainly concerned with cardiac diseases but it should be kept in mind that treatment with corticoids and electrolytes is often accompanied by morbid lesions outside the heart. Conditioning of tissue by corticoids for the pathogenic effects of certain electrolytes is not limited to the diseases of the heart. Many isolated clinical and experimental observations on cardiac necroses are now scattered throughout the literature. The object of this monograph is to coordinate these data, in the light of newly acquired knowledge about the electrolyte-steroid-cardiopathies. It is hoped that such a systemization of our knowledge will help us to obtain a better insight into the complex relationships between electrolytes, steroids, and stress, which the author believes to be fundamental to the understanding and prevention of many diseases.

NEWS FROM THE MEDICAL SCHOOLS

Albany

A live two-way radio hookup linked public forums on heart disease in Albany and Springfield, Mass., February 17. The open-circuit broadcast marked the first occasion that a two-way radio technique developed by Albany Medical College has been used to bring medical information to a lay audience.

Principal address at the forum was given by Dr. PAUL DUDLEY WHITE, who spoke in Albany. Persons attending the Springfield forum were able to question Dr. White and other panel members via the radio hookup joining WAMC, the Albany Medical College FM radio station, and WEDK in Springfield.

To commemorate the 100th anniversary of its founding, E. R. Squibb and Sons, pharmaceutical firm, sponsored a centennial lecture at Albany Medical College February 20. The lecture was given by Dr. ROY HERTZ, chairman of the endocrinology section, National Cancer Institute, National Institutes of Health, Bethesda, Md.

Baylor

Dr. JAMES R. SCHOFIELD, assistant professor of anatomy, has been promoted from assistant dean of the college of medicine to associate dean. Appointed to the faculty in 1947 as an instructor in anatomy, Dr. Schofield also has served as national coordinator of the program of Medical Education for National Defense, and organized an association of admission officers of Southern medical schools. He was recently selected as one of three outstanding young men of Houston for 1958 by the Houston Junior Chamber of Commerce.

Boston

Dr. BERNARD BANDLER of Cambridge, Mass., president-elect of the American Psychoanalytic Association, has been named chairman of the department of psychiatry. Dr. Bandler has also been named psychiatrist-in-chief of the Massachusetts Memorial Hospitals. He has been associated with the school and with the hospital since 1947.

Buffalo

The University has named Dr. ERNEST WITEBSKY as the new dean of its school of medicine. Dr. Witebsky has been serving as acting dean since the death of Dr. Stockton Kimball.

A 1926 graduate of the University of Heidelberg, Dr. Witebsky came to this country in 1934 and joined the University of Buffalo faculty of medicine in 1936. He holds the rank of professor and head of the department of bacteriology and immunology. In addition, he is a bacteriologist and serologist at the Buffalo General Hospital. Dr. Witebsky was one of the original organizers and chairman of the International Society of the Hematology Program in Buffalo in 1948.

Recognized for his contributions to the knowledge of the nature of blood, Dr. Witebsky received special honors for his research last June from the University of Freiburg.

U. of Chicago

The Comdr. Eugene F. McDonald, Jr., Memorial Laboratory for Exfoliative Cytology has been established at the Medical Center. Formation of the laboratory has

been financed by leaders in the radio and television industry as a memorial to the late founder-president of Zenith Radio Corporation of Chicago.

In announcing the gift, Dr. LOWELL T. COGGESHALL congratulated the radio and television industry for having selected such an important area in which to establish a living memorial to one of its dynamic pioneers.

Under the direction of Dr. GEORGE L. WIED, assistant professor of obstetrics and gynecology, the laboratory is designed to make examinations for gynecological, lung and other forms of cancer routine.

Cincinnati

Dr. WILLIAM D. LOTSPEICH, professor and head of the department of physiology, has been appointed to the board of trustees of Wilmington College.

Colorado

Three of Russia's academic surgeons were guests of their U.S. counterparts in Denver last month during the twentieth annual meeting of the Society of University Surgeons, February 12–14. Visitation was arranged by the U.S. State Department and the U.S.S.R. as part of an exchange agreement of medical lecturers between the two countries. Program chairman for the meeting was Dr. BEN EISEMAN, professor of surgery at the medical school and chief of surgery at the Denver V.A. hospital.

The Russian visitors were: Dr. Boris Petroff, professor and chief surgeon, the Skilfosowsky Institute, Moscow; Dr. Fedor Uglov, professor and chief surgeon, First Medical Service, Leningrad; and Dr. Boris Ositov, professor and chief surgeon, Institute of Post-Graduate Study, Moscow. Dr. HENRY T. RANDALL, chairman of the department of surgery at Memorial Hospital, New York, and president-elect of the Society of University Surgeons, accompanied the Russian doctors on their trip from New York.

Upon leaving Denver, the Russian doctors visited Baylor University Medical School; the University of Minnesota; Mayo Clinic; Western Reserve; Johns Hopkins; and the National Institutes of Health in Washington.

A member of the University of Colorado school of medicine faculty participated in a health discussion which was recorded for broadcast throughout Europe by the Voice of America. He is Dr. KURT N. VON KAULLA, one of four German-speaking researchers invited by the U.S. State Department to take part in the recorded discussion during a symposium on blood conducted recently at Wayne State University, Detroit. On the panel with Dr. von Kaulla were three research scientists visiting in the U.S. and representing Germany, Austria and the Netherlands. All have done research into the problems of blood coagulation, and have contributed to scientific knowledge of how medical science can treat blood coagulation abnormalities.

Dr. JAMES S. MILES has been advised of his selection by the American Orthopedic Association as one of four outstanding young American orthopedic surgeons for a 7-week visit to England this spring as an Exchange Fellow. Dr. Miles is head of the division of orthopedic surgery of the department of surgery.

Physicians selected for participation in the Exchange Fellows program are under 40 years of age and are chosen for their outstanding records and their professional interest in either private or academic medicine.

Columbia

Dr. LEONARD J. GOLDWATER, professor of occupational medicine at Columbia's school of public health and administrative medicine, was installed February 12 as president of the American Academy of Occupational Medicine. The installation took place at the organization's annual meeting in Boston. He succeeds Dr. RONALD F. BUCHAN of the Prudential Life Insurance Company.

The Academy is composed of approxi-

mately 350 professional persons who are working full time in the field of industrial medicine.

Cornell

A grant has been made to the school for the establishment of fellowships for those interested in the study of human ecology and its relation to health. An immediate purpose is to provide opportunities for study and investigation for men who plan to pursue academic careers. Dr. HAROLD G. WOLFF will be directing the program.

Further information may be obtained by writing to Dr. E. Hugh Luckey, Chairman of the Department of Medicine, New York Hospital-Cornell Medical Center, 525 E. 68th Street, New York 21, N.Y.

Illinois

Dr. EDWARD F. LIS, director of the Center for Handicapped Children at the University of Illinois hospital, has been appointed acting director of the university's statewide Division of Services for Crippled Children, filling the vacancy created by the death of Dr. HERBERT R. KOBES, January 10. With facilities in 42 communities throughout Illinois, the division conducts more than 260 clinics yearly. Dr. Lis will direct the division from Chicago. He is an assistant professor of pediatrics at the university's college of medicine and has been a member of the pediatric staff of the hospital since 1946.

Jefferson

Dr. THEODORE R. FETTER, professor and head of the department of urology, has been named Nathan Lewis Hatfield Professor of Urology. Dr. Fetter is also president of the hospital staff.

Kansas

A $125,000 addition to the Medical Center was completed in January with the addition of a two-story unit built to house the school's first cobalt therapy unit and to provide additional facilities for the school's department of radiology. The new unit is constructed to adjoin the present department and to provide additional waiting rooms and treatment areas.

A research professorship in human reproduction has been established at the university's school of medicine with Dr. THOMAS H. CLEWE named to the post. Dr. Clewe held the rank of assistant professor in the departments of anatomy and obstetrics and gynecology.

Maryland

A postgraduate training program in neuropathology has recently been established in the school. Aided by a grant from the National Institute of Neurological Diseases and Blindness, the program is designed particularly for Board-certified pathologists or those eligible for certification who plan an academic career and who desire specialty training in neuropathology. In addition to the neuropathologic training, a two-year progressive program includes instruction in the basic sciences as applied to neuropathology and some clinical correlative experience.

Mayo Foundation

Dr. DONALD C. BALFOUR, emeritus member of the staff of the Mayo Clinic, director emeritus of the Mayo Foundation, and emeritus professor of surgery in the Graduate School of the University of Minnesota, was awarded an honorary fellowship in the Royal College of Physicians and Surgeons, of Canada, in absentia at the convocation of the college in Vancouver. The award was made by Dr. JOHN W. SCOTT, dean of the Faculty of Medicine of the University of Alberta and president of the college.

Medical Evangelists

Dr. G. E. NORWOOD, assistant clinical professor of obstetrics and gynecology, was named assistant dean of the school of medicine. Dr. Norwood is filling a newly-created post, responsible for the postgraduate medi-

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cal education program at CME. Dr. HAROLD M. WALTON had headed CME's postgraduate medical education activities.

Michigan

Fifteen senior medical students from the National University of Mexico attended a month-long seminar at the Medical Center recently. Arranged by the two universities through the U.S. State Department, the seminar was expected to open extensive professional exchanges within the Americas. Medical coordinator of the seminar was Dr. SIBLEY W. HOOBLER of the department of internal medicine.

Mississippi

Accepted for credit by the American Academy of General Practice, the school of medicine held its first Symposium on Psychosomatic Obstetrics-Gynecology March 4, at the University Medical Center in Jackson. Guest speakers were Dr. HARRY FIELDS, associate professor of obstetrics and gynecology, University of Pennsylvania school of medicine; Dr. JAMES H. FERGUSON, professor and chairman, obstetrics and gynecology, University of Miami school of medicine; and Dr. P. J. SPARER, professor of psychiatry and preventive medicine, University of Tennessee school of medicine.

New York University

New York University-Bellevue Medical Center is offering a three-month Training Fellowship, with stipend, in neuroanatomy and neurophysiology, beginning September, 1959. Applications should be in by May 1. Further information may be obtained by writing to Dr. Louis Hausman of the department of anatomy, New York University-Bellevue Medical Center, 550 First Avenue, New York, N.Y.

A gift of $150,000 has been made to New York University-Bellevue Medical Center from the Alfred P. Sloan Foundation, Inc., for the establishment of a radioisotope laboratory in Mr. Sloan's name. According to university sources, the laboratory will be an integral part of the research program of the Center's Institute for Cardiovascular Disease and will participate in the many cooperative research projects relating to diseases of the heart and blood vessels, including those of both a congenital and an acquired nature.

Dr. NADENE COYNE has been appointed coordinator of training for physicians in the department of physical medicine and rehabilitation of New York University-Bellevue Medical Center and director of the Respirator Center at Goldwater Memorial Hospital. Dr. Coyne was formerly director of the department of physical medicine and rehabilitation, Cleveland General Hospital, Cleveland, Ohio.

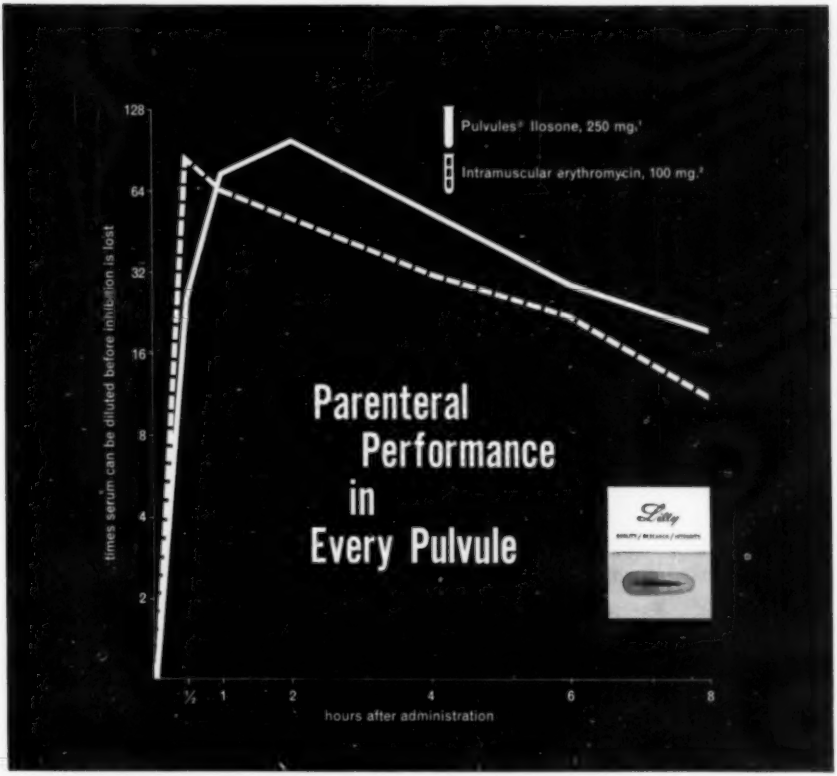
North Carolina

Dr. DAVID GORDON SHARP, professor of biophysics in the department of bacteriology, has been named President-Elect of the Electron Microscope Society of America. He will take office as president of the society at its 17th annual meeting this summer in Columbus, Ohio. The organization has approximately 1,000 members throughout the United States.

Dr. WILLIAM P. RICHARDSON, assistant dean for continuation education, announced programs for two postgraduate medical courses for practicing physicians to be held in New Bern and Raleigh during March and April. The programs are sponsored by the school of medicine and the Extension division of the University of North Carolina in cooperation with the Craven and Wake county medical societies.

Northwestern

Dr. EDWARD R. PINCKNEY, associate in the department of medicine, has been appointed director of the comprehensive medicine clinic at the medical school. He also will be in charge of preventive medicine and public health teaching. In addition, Dr. Pinckney will serve as executive secretary of the committee for an integrated program for



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1. Antibiotic Med. & Clin. Therapy, *5*:609, 1958.

2. Data from Antibiotics Annual, p. 269, 1954-1955.

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education in medicine. The committee is studying the feasibility of combining the pre-medical and medical school years into one integrated curriculum.

Oklahoma

Dr. KIRK T. MOSLEY, chairman of the department of preventive medicine and public health since 1952, was named associate dean in charge of special training and research programs for the Medical Center. Dr. WILLIAM W. SCHOTTSTAEDT, assistant professor, was named vice-chairman of the preventive medicine and public health department.

Pennsylvania

The department of public health and preventive medicine has received a five-year $250,000 grant from the Public Health Service to train medical, dental, veterinary, or social science graduates in epidemiology. The grant makes possible a new departure in graduate medical training at the university. According to Dr. THEODORE H. INGALLS, professor of preventive medicine and epidemiology, and director of the training program, it will help relieve a serious shortage of physicians, dentists, and other professionally educated scientists, specifically trained as investigators and directors of research in epidemiology. Object of the program is to provide postgraduate experience in preventive medicine and research analogous to the internship and residency programs of the medical specialties.

A series of short refresher courses will be given during May and June by the Children's Hospital of Philadelphia and by the Graduate School of Medicine. They include, Pediatric Advances (May 25–29); Practical Pediatric Hematology (June 1–5); and a Postgraduate Course in Practical Pediatrics for physicians in Pennsylvania, New Jersey, and Delaware. Inquiries should be addressed to Dr. Irving J. Wolman, Director of Post-Graduate Education, The Children's Hospital of Philadelphia, 1740 Bainbridge Street, Philadelphia.

St. Louis

Dr. ROBERT E. MACK, assistant professor of medicine, has been awarded a grant of $16,740 by the Public Health Service for the training of physicians in the basic aspects of the use of radioisotopes in clinical medicine. Director of the radioisotope research laboratory at Veterans Hospital, Dr. Mack will train physicians in both basic laboratory and clinical research, utilizing radioactive material as a principal tool. A portion of the program will be correlated with the St. Louis University school of medicine's undergraduate training program in radiobiology, which was inaugurated this year for the education of medical students. The school's four-year curriculum was revised to include studies in the field of radiation biology.

Seton Hall

Dr. CHARLES L. BROWN, dean, announced the appointment of Dr. STUART S. STEVENSON as professor and chairman of the department of pediatrics. Dr. Stevenson has served on the medical faculties of Yale and Harvard and prior to his appointment at Seton, had been acting chairman of the department of pediatrics at the University of Pittsburgh school of medicine.

Stanford

A New Jersey physician, Dr. ANDREW D. HUNT, Jr., will head the outpatient clinics of the $22 million Palo Alto-Stanford Hospital Center now under construction. He will be director of the Ambulant Services as well as associate professor of pediatrics at the medical school. Both appointments are effective April 1.

Dr. Hunt was appointed director of clinics at Children's Hospital of Philadelphia in 1946 and joined the staff of the Hunterdon Medical Center in Flemington, N.J., in 1952, where he is currently director of pediatric services.

The school of medicine will present the annual postgraduate conference in ophthalmology, April 6–10. Programs and further information may be obtained from the Office

of the Dean, Stanford University School of Medicine, 2398 Sacramento St., San Francisco 15, Calif.

S.U.N.Y. Brooklyn

Dr. HENRY C. STOLL, former associate chief cancer research pathologist at Roswell Park Memorial Institute in Buffalo and associate in pathology at the University of Buffalo school of medicine, has joined the faculty as clinical assistant professor of pathology.

Appointed to the post of clinical professor of pediatrics is Dr. MORTON SELDOWITZ.

Stritch

Dr. JOHN L. KEELEY has been appointed professor and chairman of the department of surgery, succeeding Dr. HARRY OBERHELMAN, who will continue on the staff. Dr. Keeley also was appointed head of surgery at Mercy Hospital.

Tennessee

Dr. HAROLD B. BOYD will head the department of orthopedic surgery, filling the vacancy created by the resignation of Dr. JAMES SPENCER SPEED. A member of the faculty since 1926, Dr. Speed will continue as professor in the department. Dr. Boyd was recently promoted from associate professor to professor of orthopedic surgery.

Tulane

A grant of $207,000 has been made to the school of medicine by the Department of Health, Education, and Welfare for the construction of a rehabilitation facility within the proposed new medical school building. The evaluation and referral unit of the facility will be under the direction of an independent agency sponsored by the New Orleans Council of Social Agencies. The unit will provide comprehensive medical evaluation, planning and referral for patients needing rehabilitation.

Tulane has embarked upon a $16 million campaign to make possible the new building and renovation of the present building.

Dr. PAUL C. BEAVER has been appointed the William Vincent Professor of Tropical Diseases and Hygiene. Former professor of parasitology, Dr. Beaver has been a member of the medical school faculty since 1945. He succeeds Dr. ERNEST CARROLL FAUST, who has reached retirement age. Dr. Faust will continue as field coordinator of the Tulane consultant program with the seven medical schools of Colombia, South America.

Wayne State

Dr. ARTHUR J. VORWALD was one of three Americans among the 15 representatives from seven countries to meet in South Africa, February 9–21 to discuss their problems with pneumoconiosis. Other delegates from the United States were: THEODORE F. HATCH, professor of industrial health engineering, University of Pittsburgh; and Dr. O. A. SANDER of Milwaukee.

The Americans met in Johannesburg with scientists from the United Kingdom, Belgium, Germany, France, Switzerland, and Northern Rhodesia at the invitation of the Pneumoconiosis Research Unit of the South African Council for Scientific and Industrial Research.

Plans for a new $1.5 million science building on the Wayne State campus were approved by the university's board of governors at their recent monthly meeting. A $500,000 grant from the federal government will aid in financing a health-related research facility. An additional $500,000 will finance instructional laboratories for the departments of chemistry and biology.

Wisconsin

Dr. GERNOT B. RATH of Bonn University, Germany, has joined the faculty as visiting professor of the History of Medicine. After receiving the M.D. degree at Bonn in 1948, Dr. Rath became interested in the study of the history of medicine and became a pupil of Prof. Johannes Steudel in Bonn. He subsequently spent ten years at the Institute of the History of Medicine, acquiring the right of giving lectures as a qualified academic teacher in that field.

ITEMS OF CURRENT INTEREST

Congress on Medical Education and Licensure

Advantages and disadvantages of specialism in modern society were examined during the 55th Annual Congress on Medical Education and Licensure, February 7–10 at the Palmer House, Chicago, Ill.

Sponsored by the American Medical Association's Council on Medical Education and Hospitals, the Federation of State Medical Boards of the United States, and the Advisory Board for Medical Specialties, the conference was attended by approximately 950 medical educators, hospital administrators, government officials and practicing physicians.

Dr. F. J. L. Blasingame, executive vice-president of the AMA, announced two appointments in the association's executive staff.

Edward L. Turner, M.D.

Dr. Edward L. Turner was named to the newly created position of director of the Division of Scientific Activities. Dr. Turner has been secretary of the AMA Council on Medical Education and Hospitals since 1953. Dr. Walter S. Wiggins, associate secretary of the council, will succeed Dr. Turner as council secretary.

The new Division of Scientific Activities will include the Councils on Mental Health, Scientific Assembly, and Medical Education and Hospitals; the American Medical Education Foundation, and the Department of Therapy and Research.

Prior to joining the AMA Council, Dr. Turner had been dean of the University of Washington School of Medicine, Seattle. He also served as president of Meharry Medical College, Nashville, Tenn., and as professor of physiology, professor of medicine and dean at the American University of Beirut, Beirut, Lebanon.

Walter S. Wiggins, M.D.

Dr. Wiggins joined the Council on Medical Education and Hospitals in 1954. Previously, he was assistant dean at the State University of New York College of Medicine, Syracuse.

WHY THIS CONFERENCE?

"Is the trend toward more and greater specialization in the best interest of the patient and the physician . . . does it prevent or interfere with the necessary continuity and personalization of the care of the patient . . . are there serious economic consequences to both the patient and the physician . . . has specialism, or more specifically the specialty boards, had an undue influence on graduate medical education through rigid requirements which must be followed in order to achieve the coveted certification?" These were the questions posed by Dr. Ernest L. Stebbins, president of the Advisory Board for Medical Specialties, as the Congress got under way Sunday, February 7.

Dr. Stebbins recalled the establishment 25 years ago of the Advisory Board and its purpose to provide a mechanism for the continuing study of the problems of specialism. In addition, it was to encourage and

maintain standards of graduate education and training in those fields of medical practice in which highly specialized knowledge and skills are required.

Observing that specialism is no longer confined to the field of medicine, but that there is a similar trend in every phase of professional, scientific and technologic activity, the speaker recounted the reasons for this state. The most obvious is what has been called the "explosive" rate of technological changes, and the increasing complexity of the whole range of scientific endeavor, coupled with the increased recognition of the value of research and discovery.

SPECIALISM AND THE PURSUIT OF EXCELLENCE

The pursuit of excellence demands specialization, and the pursuit of specialization creates problems, asserted Moody E. Prior, dean of Northwestern University's graduate school. He pointed out that in order to preserve a sense of proportion one must be fully aware of the inherent defects which can appear even when specialization is pursued with the best of motives. Because the power and prestige of specialization have been widely acknowledged, Dr. Prior feels the specialist may become increasingly concerned about his status. Thus, the danger lies in the fact that it becomes easier for ignorance to conceal itself in technique and pedantry to parade as art.

Dr. Prior offered two possible approaches to the correction of the defects and limitations of specialization as they apply to medicine. One is through the conditions, forms, customs, and organizations which exercise control over the practice of medicine; the other is through the ordering of medical education and training. Noting the increase in the use of team work, not only in the diagnostic clinics but among smaller groups of closely associated specialists, he believes this collaborative approach avoids the most conspicuous abuses of specialization and preserves the value of a high degree of individual limited expertness while at the same time maintaining a concern for the total human being.

Dr. Iago Galdston, Secretary of the Committee on Medical Information, New York Academy of Medicine, stated that while specialism will remain as a department of medical service, medical science per se and medical service per force, will undergo a revolutionary change.

Addressing the Congress on *Specialism in Medicine Today* and *Tomorrow's Trends*, Dr. Galdston further asserted, "We are on the verge of that stage wherein the emergent unifying principles of the biological sciences, reflected notably in the disciplines of physiology and ecology, promise to make of medicine a consistent and meaningful discipline compact in principle and pervasive in application."

Concluding, he urged that those charged with the education and training of our future doctors pay heed, prepare, and foster this promise of the future.

In pointing out the challenges and objectives of specialism in graduate education for the basic medical sciences, Dr. S. Marsh Tenney observed that in view of the history of science, and the changing patterns of specialization, "the basic issue is not whether specialization has been or will continue to be necessary to the advance of scientific knowledge but, rather, whether there is some feature implicit in the system which has been destructive to the common good."

He deplored the "caste system" in science, noting there are two unfortunate products that weaken the basic goal of research; the scientific snobbery and the establishment of cadres of secrecy. "To avoid intellectual segregation is difficult at best, but to deliberately deprecate knowledge from any source betrays an unforgivable provincialism," he said.

Dr. Tenney is director of medical sciences and professor of physiology, Dartmouth Medical School.

MAINTENANCE OF STANDARDS IN GRADUATE MEDICAL EDUCATION

The morning session was brought to a conclusion with a review by Dr. Walter Wiggins of the standards set forth by the AMA's

Council on Medical Education and Hospitals in cooperation with representatives of the specialty fields, and eventually the specialty boards.

Speaking on behalf of Dr. Edward L. Turner, who was forced to remain at home because of illness, Dr. Wiggins stated that an effort has been made to interpret the dual concept of the application of a standard. These standards are constantly being developed and adapted to the changing scene, with caution being directed toward problems associated with over-specialization.

WORKSHOP-CONFERENCES

Following the initial plenary session, a series of open workshop-conferences focused on "Specialism in Medicine" from the standpoint of: The Residency Program; the Specialty Board; the Resident and Fellow; and the Hospital were held Sunday, February 7.

The Residency Program: Chaired by Dr. Wright D. Adams and Dr. George A. Wolf as rapporteur, the program opened with electrifying force with attacks made on several issues.

The stipend, or lack of it, paid to residents was first assailed, with the consensus that residents are underpaid, with note made of the fact that some had to work out of hours in order to support wife and family. Also, many residents, although presumably being educated, do not have time to read during their course of instruction. And finally, in some instances, the resident seemed to be more of a hospital employee than a true arm of the chief of service.

The teachers of residents on the panel joined in criticizing the specialty boards, and proceeded to blame the AMA, the Council on Medical Education and Hospitals, the Advisory Board of Medical Specialties, and the university teachers. It was then pointed out that the AMA through the Council on Medical Education and Hospitals and the Advisory Board for Medical Specialties merely determines certain minimum standards for the establishment and recognition of specific specialty boards. The boards determine their own programs of training and give examinations. The Commission on Medical Education and Hospitals inspect residencies for conformity with the rules laid down by the Specialty Boards. The Joint Accreditation Commission concerns itself with the hospitals as a service and not as a training institution. The university hospitals are inspected by both groups and do not set minimum standards, although they might point to maximum ones.

Because of the shortage of teachers, it was agreed that young people should be encouraged to go into academic medicine. Further, it was agreed that undergraduate medical schools should not be loaded with too much specialty training and the education offered during the undergraduate years should be basic—though basic was not defined.

Introducing the issue on the quality of the teacher, all concurred that the best residency program, according to the book, and the best teaching hospital is no better than the teachers involved.

The conference came to a close with the following questions still unanswered:

> What is basic to the education of all physicians prior to entering upon specialty training? Should this vary in the case of certain very limited specialties?
>
> Can specialty boards establish minimum standards without imposing rigidity of program and preventing development or originality in the resident?
>
> Are there too many specialty and subspecialty boards?
>
> Can university medical education and hospital training for general or specialty practice be defined more clearly?

The Specialty Board: The functions and purposes of a Specialty Board were reviewed. Belief was expressed that medical schools, at this time, were in no position either in terms of personnel or of finances to undertake the regulation of specialty training, thus the boards filled the gap.

It was opined that the boards should not enter in any way into the conduct of residency training programs and should not have requirements for a specified period of training prior to certification—hence the

Board's only real function was to certify to the competence of the individual to practice the specialty and that the mechanism by which this competence was attained should not essentially be the concern of the Board in that the Board should depend entirely on an evaluation process to determine who should receive certification.

The question was raised as to whether or not the examination can be depended upon as the whole means of determining the competence for specialty practice. The general consensus was in the negative—rather that consideration must be given to other factors. It was stressed that the Board can only certify that the candidate has fulfilled the training requirements; that he has been recommended by his peers; and that he has passed the examination of the Board.

Interrogation arose as to how many specialists should be trained and what would be the anticipated needs for the future. No answer was forthcoming but it was indicated that a balance was maintained between supply and demand by the need, whereby residencies which are not occupied were dropped and when new programs were created, those not occupied also became inactive.

Dr. McK. Mitchell served as chairman, Dr. Sam Banks as rapporteur.

The Resident Fellow: Dr. A. McGehee Harvey, chairman of the group, opened the workshop by outlining the magnitude of the problem posed by the training of residents and fellows. He pointed out that with the growth in population and research training predicted by the Bayne-Jones report, it may be expected that by 1970 a billion dollars a year will go into medical education and research.

Dr. Robert Glaser, dean of the University of Colorado School of Medicine, drew attention to the dilemma posed by the educational needs and service responsibilities of residents. He emphasized the need to keep residency and fellowship programs education centered, and noted that it is far too easy in residency programs for the house officer to become involved in service. Balance should be maintained in education, research and service.

As in the Residency Program, the economic needs of the resident were stressed.

Problems concerning the non-university hospital were covered. Organizing a group of practicing physicians into an effective teaching faculty is a difficult task. Dr. Henry Uhl, speaking as a director of medical education in a hospital not affiliated with a university, pointed to the long-standing precedent of the full-time pathologist in the hospital serving as the mainstay of any teaching program. Full-time radiologists, anesthesiologists and the trend toward the appointment of full-time department heads will also help form a nucleus for the teaching faculty required in a residency program, he said. It is important, therefore, that non-university hospitals achieve an atmosphere of learning and continue to raise their educational standards, he added.

Consideration was given to the needs of medical trainees and their ultimate role as practitioners. Statistics now show that 40 to 50 per cent of the medical school graduates are now in general practice, and this percentage is rising rather than declining. Of those entering general practice since 1940, only 62 per cent have had any residency training at all. Dr. John S. DeTar of the American Academy of General Practice stated that most medical educators agree that a one-year rotating internship is inadequate preparation for practice. Two years is minimum, and this experience should be especially designed for the man who will be a family practitioner.

It was pointed out that the AMA Committee on General Practice, made up of representatives from the Association of American Medical Colleges, the Specialty Boards, the AMA Council on Medical Education and Hospitals and the Academy of General Practice, has been working on this problem for the past two years. The present plan is to recommend a two-year program that would replace the internship and one year of residency training. It would consist of 18 months of adult and pediatric medicine and would include dermatology, office otolaryngology, and traumatic and minor surgery. The final 6 months would be

spent in either surgery, obstetrics, or a subspecialty of medicine, depending on the type of practice the physician anticipates.

It was urged that hospitals must be so organized as to provide a framework within which the practicing physician can function as a teacher. For these purposes it is essential to have supervisory relationships, such as those offered by a full-time chief, that serve to instruct the practitioner in his educational role.

The Hospital: Dr. Joseph C. Hinsey served as chairman and Dr. John Conlin as rapporteur. Reporting the results of the Hospital workshop, Dr. Conlin stated there was complete agreement that the primary objective of establishing and maintaining graduate clinical training programs is in the best interest of the public and the best possible care of the patient.

There was considerable discussion regarding unsatisfactory situations arising from overlapping areas of specialty jurisdiction. It was held that it is impossible, administratively, to follow rigid policies of area segregation of beds and services for various sub-specialty patients in general hospitals. There was strong support for administration grouping of the surgical specialties, including obstetrics and gynecology and the medical specialties, including pediatrics. It was charged that present administrative problems of hospitals arise from the haphazard growth and development of the many specialty and sub-specialty boards.

Noting the increasing complexity of hospital services, attention was drawn to the increasing demands upon the services of radiologists and pathologists. This has frequently been interpreted as a local need for increasing residents in these fields, whereas the local need was for another specialty resident, Dr. Conlin reported. Further, areas of conflict have arisen from the tendency to build empires within specialties. A marked increase in developing highly specialized services within broad specialty areas is presenting problems of duplication, overlapping and costly budgeting, he added.

All conceded it is valuable for a resident to be exposed to a research program, perhaps even conducting a modest program of his own, under proper direction.

RESEARCH AND TRAINING

The factor of motivation is of utmost importance in educating a medical student. That is what President Conrad A. Elvehjen of the University of Wisconsin told the Congress.

It is his belief that everyone in education should recognize that the process of learning depends upon how the student feels about what he is learning. If he is feeling negative, the learning will be negligible. He cited various categories in which the student falls. In this group is the rugged individualist—often a nonconformist, who has an intense curiosity about natural phenomena, an ability to generate abstract ideas, and a strong desire to know—who develops as the research man, the mature teacher, and the specialist in highly advanced fields. Dr. Elvehjen therefore contended that plunging the student into the challenging world of research in an atmosphere of freedom under the restrained guidance of a leader in their particular field of interest is the best educational experience that can be offered.

Mindful that the medical student is endowed with a deep-seated curiosity as to the nature of biologic phenomena, Dr. Nathan A. Womach, professor of surgery, University of North Carolina School of Medicine, contends that if the student isn't directed into the development of a critical frame of mind, this curiosity will atrophy and the progress of medicine will be slow.

Dr. James A. Campbell, professor of medicine, University of Illinois College of Medicine, believes research is good any time in a physician's career. Recognizing that few have the real aptitude and desire for research as a career, the student should be encouraged to develop the habit of investigation. If the person elects to spend more time in this area, time should be provided in the resident's curriculum for research, he recommended.

Addressing the general assembly, Dr. Isadore Snapper held that there can be no doubt that an effective teacher of medicine

must be deeply interested in medical research. Dr. Snapper is director of medicine and medical education, Beth-El Hospital, Brooklyn.

MEDICAL EDUCATION IN CIVIL DEFENSE MOBILIZATION

The problems of learning to live in this age of continuing and accelerating change were described by John S. Patterson, Deputy Director, Office of Civil and Defense Mobilization at the Monday meeting.

The crux of the problem to the medical man is the proliferation of scientific knowledge and technical development, he said.

"As you plan ahead to make medical education keep up with progress, and to make doctors keep up with medical education, your problems multiply at a discouraging rate," said Mr. Patterson.

This has been the problem of the Office of Civil and Defense Mobilization as it is apparent the powers of destruction during the last decade have increased substantially. Mr. Patterson summarized the major developments in civil and defense mobilization readiness, and urged cooperation from the medical schools, the American Medical Association and the Association of American Medical Colleges.

A BLENDING OF INTERESTS

The Congress concluded its session Tuesday with papers presented to the Federation of State Medical Boards, with Dr. Wesley D. Richards presiding.

In his presidential address, Dr. Richards stressed the "blending of interests" that exists between the Federation and the institutions that educate the medical student. He pointed out that it is the Federation's aim to keep its perspective at a level consistent with the changes of innovations in the educational programs in medicine. He outlined the major areas in which the Federation's interests will be active in the future, i.e.; it will be continually devoted to the identification of efforts to help all its members understand modern medical education and its objectives—the Federation is aware of its obligation to pave the way for necessary changes as they may be required to modernize the several Medical Practice Acts and to make them flexible enough to permit essential as well as experimental changes in the educational programs of the medical schools—and lastly the Federation is committed to explore factors that bear on the relationship between medical education and licensure with a view of anticipating the inevitable need for change.

Dr. Richards is president of the Federation of State Medical Boards of the United States, and president of the Pennsylvania State Board of Medical Education and Licensure.

MAJOR CHANGES IN MEDICAL EDUCATION

In reviewing the evolution of medical education, dating from the early American Colonies, Dr. Willard C. Rappleye, president, Josiah Macy Jr. Foundation and dean emeritus of Columbia University College of Physicians and Surgeons, declared that the action by the Federation has given the universities freedom to correct the rigid, overburdened and overstandardized curriculum, and to place greater responsibilities upon the universities to provide real professional education.

Dr. Rappleye is of the firm belief that the teaching institutions should be free from hampering regulations of the medical profession or restrictive legislation which might interfere with their essential functions in a modern society.

In addressing the Congress on the integration of the arts and sciences with medicine, Dr. Thomas B. Turner cited the revised program which Johns Hopkins University has embarked upon in order to correct three undesirable trends in medical education. Because of the increasing length of time required to reach a productive stage in practice or research; because of the sharp break with the humanities when the student enters medical school; and because of the relative inflexibility of the medical curriculum with the lack of opportunity to engage in research, the medical course at Johns Hopkins will consist of five years instead of four.

Dr. Turner, who is dean of the school of medicine at Johns Hopkins, declared that biology and chemistry, and mathematics and physics are not something apart from liberal arts, but an important segment of them. "No man today can be considered well educated who does not have some understanding of the sciences as well as the humanities and the social sciences," the educator said.

Potentially good physicians are being lost to other professions, the assistant dean of Northwestern University medical school said.

Dr. John A. D. Cooper contends that the ability of other professions to offer greater inducements in the form of money for fellowships and research assistantships is one of the reasons for this loss. He believes this loss could have a profound effect on the kind of medical care the public is going to get in the future.

Dr. Cooper urged that steps be taken to shorten the medical program and steps be taken for granting higher professional and economic status to the physician in specialty training.

Periodic reexamination of practicing physicians to stimulate their continuing scientific competence was urged by Dr. Gunnar Gundersen, president of the American Medical Association. He spoke at a dinner of the Federation of State Medical Boards, Monday evening, February 8.

In urging the periodic reexamination of physicians, Dr. Gundersen said that in addition to insuring the American public an adequate supply of physicians, the profession must insure the quality of doctors being produced.

MEDICAL SCHOOLS RECEIVE OVER $4 MILLION

Dr. George F. Lull, president of the American Medical Education Foundation, presented a check for $1,133,654 to Dr. John McK. Mitchell, president of the Association of American Medical Colleges, and dean of the University of Pennsylvania medical school.

Chase Mellen, Jr., of New York City, executive vice president of the National Fund for Medical Education, announced gifts totalling $3,000,180, of which $1,027,000 comes from the Ford Foundation, to be distributed in March.

Contributions to the American Medical Education Foundation, which has its offices in the headquarters of the AMA, came from American physicians through voluntary assessments.

DRUG MANUFACTURERS URGE AID FOR RESEARCH PROGRAMS

Declaring that in modern medicine it is basic knowledge that needs to be increased "as rapidly as possible," the nation's drug manufacturers urged the government to give top priority to basic medical research programs.

The Pharmaceutical Manufacturers Association issued a Statement of Principle on Government Support of Medical Research which was mailed recently to members of Congress, White House advisers on science, and leading researchers and medical educators.

Explaining the pharmaceutical industry's function in the nation's medical research picture, the P.M.A. pointed out that the industry in 1958 spent approximately $170 million on research. Some of this went for basic investigations, but the bulk of it was for highly advanced scientific research whose direct aim was to find "clinically useful products."

COLLEGE OF SURGEONS FORMS NEW SECTION

The United States Section, International College of Surgeons, has formed the Section on Surgery of Trauma as a successor to the Section on Occupational Surgery.

Dr. Chester C. Guy, clinical associate professor of surgery at the University of Illinois College of Medicine is chairman of the section and Dr. N. Gillmore Long, Evanston, and Chicago, Ill., is co-chairman and secretary.

The Section on Surgery of Trauma will provide a forum for those surgeons whose

work is limited to traumatic lesions and for those who treat lesions frequently in their daily practice. The section will deal with developments in the treatment of specific injuries, consider programs for the prevention of injuries, conduct studies on basic physiologic and pathologic changes in the injured person, and give thought to allied subjects.

MEND NEWS

On January 1, MEND affiliation became official for ten additional colleges of medicine. They are: Boston University, University of Cincinnati, George Washington University, Indiana University, Marquette University, Meharry, University of Nebraska, State University of New York (Syracuse), University of Puerto Rico, and Southwestern Medical School of the University of Texas. This now raises the total of participants to 55.

Invitations to apply for MEND affiliation, if interested, were sent during January to deans of unaffiliated schools. Ten more schools are to be selected in June 1959 for MEND affiliation, such affiliation to become effective on January 1, 1960.

FORMER DEAN TO HEAD MEDICAL FUND

The National Fund for Medical Education named Dr. Robert Boggs director of its basic research program.

Dr. Boggs is a former dean of the New York University Post-Graduate Medical School where he served from 1948 to 1955. He is chairman of the National Committee for Resettlement of Foreign Physicians and a consultant on medical projects of the Unitarian Service Committee.

PAN AMERICAN SANITARY BUREAU DIRECTOR TAKES OATH OF OFFICE

Dr. Abraham Horwitz of Chile took the oath of office as Director of the Pan American Sanitary Bureau recently. He assumed his new duties February 1.

Dr. Horwitz succeeds Dr. Fred L. Soper of the United States, who completed his third four-year term as Bureau Director and now becomes Director Emeritus.

DR. STRUGHOLD OF AFS HONORED

Dr. Hubertus Strughold, adviser for research and professor of space medicine at the Air Force School of Aviation Medicine, has been named the 1958 winner of the Dr. John J. Jeffries Award for outstanding contributions in space and aviation medicine research. The award is presented annually to the individual responsible for outstanding contributions to the advancement of aeronautics through medical research, and is awarded by the Institute of the Aeronautical Sciences.

The first scientist in history to receive the academic title of professor of space medicine, Dr. Strughold is the recipient of many honors. For his pioneer research in space medicine, he was awarded the Herman Oberth Medal of the German Rocket Society at the annual meeting of the International Astronautical Association Congress in Innsbruck, Austria, in 1954, and last Fall was recognized at the Jet Age Conference of the Air Force Association in Washington for his trail-blazing work in space medicine.

PERSONNEL EXCHANGE

Faculty Vacancies

PEDIATRICIAN: Full time clinical teacher for department with active student and house staff educational program. Person interested in clinical teaching as a career desired. Considerable small group teaching with less emphasis on lectures. Rank and salary dependent on qualifications. Address: V-72.

VIROLOGIST and IMMUNOLOGIST: Research position in medical school for young Ph.D. interested in immunology and virology to cooperate in a research program as well as to pursue individual interests. Salary depends upon qualifications and experience. Opportunity for teaching. Address: V-73.

PSYCHIATRIC SOCIAL WORKERS: Active participation in clinical teaching and in expanding program of services in the department of psychiatry and in pediatrics-psychiatry clinic in eastern university medical school. Excellent opportunity for individuals interested in social work contribution in medical education. Qualifications: Master's degree with psychiatric sequence, and for senior positions experience in supervision or teaching, preferably in psychiatric clinical setting. Send curriculum vitae with application. Address: V-74.

PHYSIOLOGIST OR PHARMACOLOGIST: Teaching and research position in medical school. N.Y.C. area. M.D. or Ph.D. required. Training in neurophysiology desired. Salary based on qualifications and experience. Address: V-75.

PROFESSOR OF PREVENTIVE MEDICINE: The University of Alberta invites applications for the position of professor and head of the department of preventive medicine in the faculty of medicine. Duties will include administration of the department, teaching of graduate and undergraduate students and a program of research. Salary will be $10,000 per annum with consulting privileges. Interested applicants should send a complete curriculum vitae, names of three referees, and a recent photograph to the office of the Dean of Medicine, University of Alberta, Edmonton, Alberta.

PEDIATRICIANS: Two or 3 part-time teaching positions —may use remainder of time for private practice. Address: F. G. Gillick, M.D., Creighton University School of Medicine, Omaha 2, Nebraska.

PSYCHIATRISTS: Full-time and part-time teaching positions. Need coordinator of teaching grant program. Would function under departmental director. Address: F. G. Gillick, M.D., Creighton University School of Medicine, Omaha 2, Nebraska.

ASSISTANT PROFESSOR OF PREVENTIVE MEDICINE: Full-time appointment in department of preventive medicine with teaching and research opportunity, including comprehensive medical care teaching. Must have M.P.H. degree. Address: V-76.

FELLOW IN VIRUS RESEARCH: M.D., with at least one year of residency in pediatrics for training in diagnostic virology. Duties include approximately three hours of ward rounds, and five hours of training and research in the virus laboratory. The individual is expected to direct and consolidate activities in the clinical and research areas. Salary $6,000 per annum. Position available for 2-year tenure. Apply Dr. H. A. Wenner, University of Kansas Medical Center, Kansas City, Kansas.

IMMUNOCHEMIST OR BIOCHEMIST: Must be interested in field of infectious diseases. Activities include studies on immune mechanisms and on the biochemistry of virus infections. Full-time research position. Salary open; minimal $8,000. Apply H. A. Wenner, M.D., Section for Virus Research, University of Kansas School of Medicine, Kansas City, Kansas

PSYCHIATRISTS: Newly organized department of psychiatry in east coast medical school needs full-time psychiatrists for research and teaching. Rank and salary are dependent on experience and qualifications. Address: V-77.

DIRECTOR OF MEDICAL EDUCATION: for new 350-bed hospital. New position. Internal medicine specialist preferred for full-time position. Beginning salary about $15,000 per year. Address inquiries to: Sister Administrator, Providence Hospital, Washington 17, D.C.

PHARMACOLOGIST: The University of Alberta invites applications for the position of Associate Professor of Pharmacology, effective not later than September 1, 1959, at a minimum salary of $8,000 per annum, with annual increments. Duties include undergraduate and graduate teaching and a program of research. Applicants possessing a medical degree, in addition to qualifications in pharmacology, will be given preference. Applications should include a recent photograph or snapshot, a curriculum vitae, and the names of three references, and should be sent to the Dean of Medicine, University of Alberta, Edmonton, Alberta, Canada.

PSYCHIATRIC SOCIAL WORKER: Position open on new child psychiatry inpatient service to be opened on July 1. Research and teaching will be emphasized in developing program. Preferred qualifications are Ph.D. degree or doctoral candidate with solid clinical grounding in psychiatric social work. Master's degree in Social Work with 5 years psychiatric clinical experience will be considered. Position carries academic appointment. Send curriculum vitae with application. Address: V-78.

To aid in solution of the problem of faculty vacancies, MEDICAL EDUCATION will list persons and positions available, as a free service. The school department or person may have the option of being identified in these columns or of being assigned a key number for each position listed. Mail addressed to key numbers will be forwarded to the person or department listing the request.

Information for these columns should reach the Personnel Exchange, Journal of Medical Education, 2530 Ridge Avenue, Evanston, Illinois, not later than the 10th of the month which precedes the month in which the listings will appear.

Personnel Available

NUTRITIONIST-BIOCHEMIST: Ph.D. Physician. Eight years experience teaching medical and graduate students. Associate professor in leading Eastern university. Numerous publications and membership in leading professional societies. Desires medical school position where there is available a combination of pre-clinical and clinical teaching with research facilities. Principal interest and experience in nutritional biochemistry and metabolism. Address: A-371.

ANATOMIST: Age 35, married. Desires change of position with more time for research, in Canada or U.S. Medical graduate of London Medical School and the English Royal Colleges. Also a London Ph.D. Has had extensive medical experience and surgical training before becoming an anatomist. Since then lectureship in a London school and Senior Lectureship and Readership for six years in a British overseas university. Has had responsibility for teaching, planning and administration. Publications in journals. Address: A-374.

ALLERGIST: Board eligible in medicine. Desires career type opportunity in teaching and research. Has basic training in immunology. Will consider full-time, geographic full-time and half-time opportunities. Address: A-375.

INTERNIST-BIOCHEMIST: Ph.D., M.D. Age 42. Desires opportunity to do research with some clinical work, interested in rheumatic diseases experienced teacher and investigator. Wide scientific background, including radioisotopes, publications. Address: A-376.

ROTATING INTERN: Age 26. Publication co-author. Desires faculty appointment in general surgery. Excellent references. Available July 1959. Address: A-377.

PEDIATRICIAN: Diplomate American Board of Pediatrics. Currently assistant professor; seeking a teaching position in a new location. Address: A-378

ORTHOPEDIC SURGEON: British, age 36. F.R.C.S. (Edin.) F.R.C.S. (Eng.) Guy's Hospital Medical School, London. Publications, British Medical Journal. Eight years experience. Desires position in American medical school, preferably in orthopedic and traumatic surgery. Prepared to sit any necessary licensure or other examinations. Prefers settling in a maritime state with a warm climate. Address: A-379

MICROSCOPIC ANATOMIST: M.D., male. Presently associate professor but desires change of locale to upper midwest or west for reasons of health. Seeking academic or research position in medical center or research laboratory. Address: A-380.

PHYSIOLOGIST: Ph.D., 1958, married, three children. Research in circulatory and respiratory physiology. Nine publications; teaching experience with medical and dental students. Desires teaching appointment in New England or New York State, with opportunity for research. Address: A-381.

INTERNIST: M.D., age 33. Currently on faculty of eastern medical school with experience in private practice and industrial medicine; eight months experience and training in psychiatry. Desires faculty appointment with opportunity for clinical investigation in cardio-vascular diseases in teaching hospital. Address: A-382.

INTERNIST: Female, age 32; Mayo trained with an interest in hematology. Desires teaching position. Address: A-383.

SURGEON: Age 33, certified general, experience in thoracic and extra-corporeal techniques. University training. Seeks full-time academic position with opportunity for research. Address: A-384.

BIOSTATISTICIAN: Seeking position as member of team in basic medical research or as lecturer to medical, dental, pharmacy and graduate students. Address: A-385.

PEDIATRICIAN: MPH, desires teaching and/or research position with clinical emphasis. Address: A-386.

ANATOMIST: Position wanted in university anatomy department in U.S., by married male with family. British medical school degree in medicine, extensive clinical experience, and recent teaching and research experience in anatomy in England. Good references available. Available to attend interviews in the U.S. now. Address: A-387.

OPHTHALMOLOGIST: Research scientist in field of vision and ophthalmology desires teaching position in Canada or U.S. Long experience in field and extensive publications. Contracts pending and in hand. Address: A-388.

OBSTETRICIAN-GYNECOLOGIST: Foreign physician, age 30, three years residency in obstetrics and gynecology in teaching hospitals of U.S.A., with good command of English, desires position as preceptor in Ob-Gyn., starting July 1959. Address: A-389.

UROLOGIST: Foreign physician, age 30, one year internship, three years in urology and one in urological research in teaching hospitals of U.S.A. Desires position as preceptor in urology, starting July 1959. Good command of English. Address: A-390.

THORACIC SURGEON: M.D. 1947, University of Istanbul. Served an internship in surgery (1954–55) Montana Deaconess Hospital, Great Falls, Montana. Served as Fellow in Thoracic Surgery (sponsored by American Col-

lege of Chest Physicians) Knoxville, Tenn. Presently in charge of thoracic surgery department at Armenian Hospital, Istanbul. Desires teaching position in American medical school. Address: A-391.

PATHOLOGIST: Age 35, married. Certified PA 1955. Academic background and three years teaching experience. Wishes to relocate in West. Will consider part-time or full-time teaching appointment. Especially interested in surgical pathology. Address: A-392.

OTOLARYNGOLOGIST and HEAD and NECK SURGEON: Age 32; board eligible. University of the Philippines graduate. Completed five and one half years' training in eastern medical centers (3 years otolaryngology, 6 months more bronchoesophagology, and 2 years general and head and neck surgery). Desires one year fellowship, or assistantship, or academic position. Available August or October, 1959. Address: A-393.

BIOCHEMIST: Ph.D., age 30. Assistant professor of biochemistry desires academic position. Five years medical and graduate teaching experience. Membership in national societies, honors, grants, graduate students. Fifteen full-length publications. Research interests: enzymology, microbial metabolism and protein metabolism. Available July 1, 1959. Address: A-394.

PHYSIOLOGIST-PHARMACOLOGIST: Ph.D., 1954. Male, married, with family. Presently teaching physiology in dental school. Desires teaching position with research opportunities in physiology or pharmacology department. Address: A-395.

BIOSTATISTICIAN: Age 43; Ph.D. (mathematics and statistics). One year post-doctoral work in statistics; sixteen years experience in teaching and research in schools of medicine and public health. Desires position doing teaching and/or research. Address: A-396.

PATHOLOGIST-BACTERIOLOGIST: M.S., B.S. (London University); M.R.C.S. (England) L.R.C.P. (London). Age 42, family; registered with British General Medical Council. Five years experience in general and clinical pathology and bacteriology, London, England. Completing 3-year contract in Jamaica. Desires academic appointment in U.S., preferably in the South. Available May, 1959. Address: A-397.

VIROLOGIST-PATHOLOGIST: Excellent experience and background in infectious diseases, human and animal viruses. Broad interests include cancer and pathogenesis. D.V.M.–Ph.D., age 34. Presently in industry. Desires research and teaching position. Would consider Senior Fellowship. Address: A-398.

INTERNIST-HEMATOLOGIST: Age 36, Board certified, with five years academic-type practice and previous research experience, seeks academic position in moderate sized city. Address: A-399.

PSYCHIATRIST: Female, age 26, completing final year of residency in June 1959. Training includes two years in an active university program and participation in family studies in schizophrenia. Analytically (Sullivanian) oriented. Special interests: Psychotherapy with schizophrenics, teaching professionals and non-professionals, liberal arts. Seeks position teaching in medical school with time for limited private practice. Interested in small university community. Address: A-400.

PHARMACOLOGIST: Ph.D., 1955; married, 3 children. Presently teaching pharmacology to medical students. Publications. Research interests: drug metabolism and toxicology. Desires teaching appointment in medical school that would provide opportunity for completion of courses leading to M.D. degree. Would continue teaching pharmacology after receiving the degree. Available August 1. Address: A-401.

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Films in Psychiatry, Psychology and Mental Health (available from the Health Education Council, 92 Belmont Drive, Livingston, N.J.).

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Part II available from the Medical A-V Institute ($2.00).

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